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RAILWAY AGE

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

FEBRUARY 26, 1951

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Improve DROP DOOR OPERATION...

ASIER CLOSING

AFER HANDLING

POSITIVE FIT..

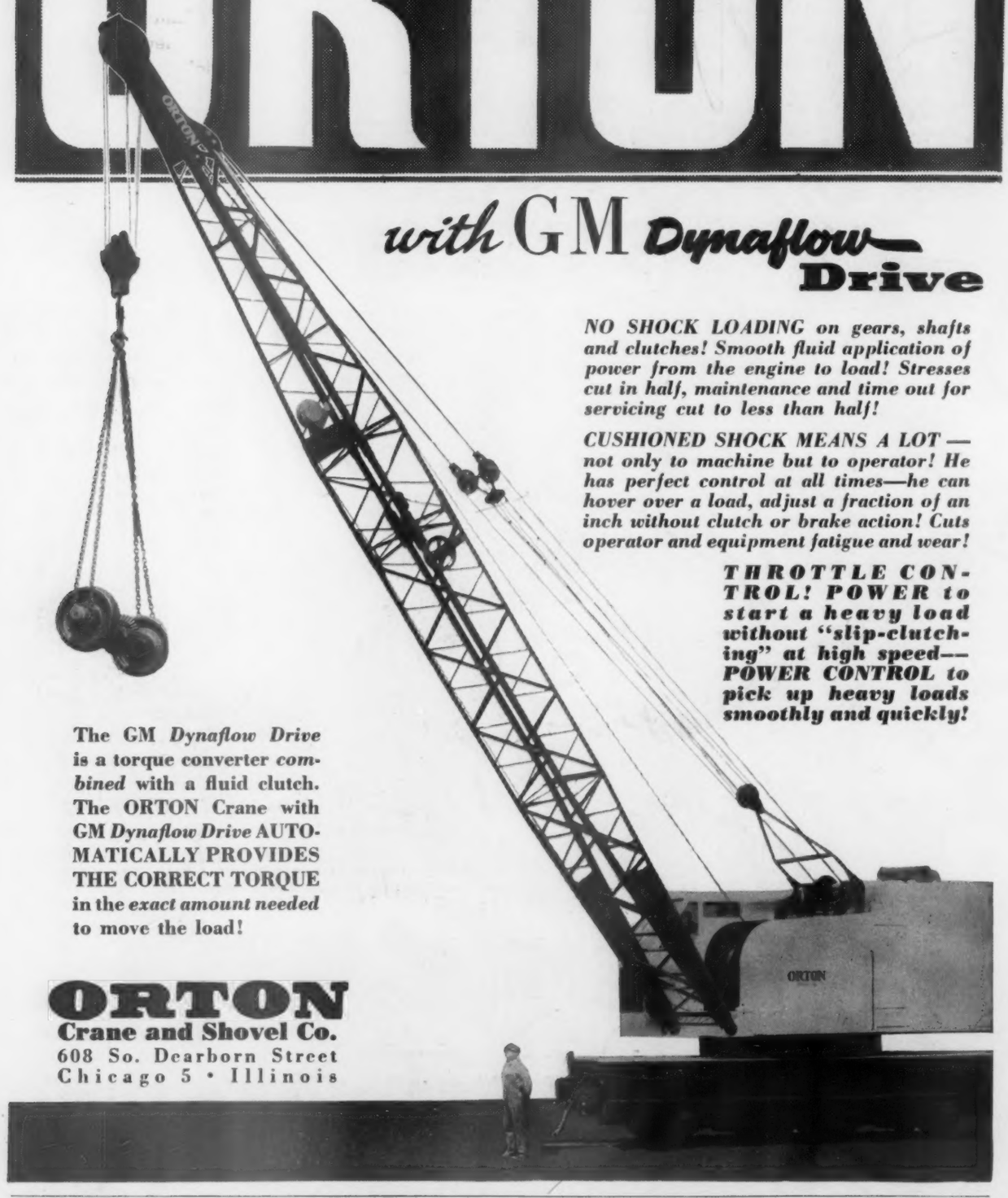
WINE

SPRING HINGES and ADJUSTABLE LOCKS

THE WINE RAILWAY APPLIANCE CO. TOLEDO 9, OHIO

ORTON

with GM *Dynaflow* Drive



NO SHOCK LOADING on gears, shafts and clutches! Smooth fluid application of power from the engine to load! Stresses cut in half, maintenance and time out for servicing cut to less than half!

CUSHIONED SHOCK MEANS A LOT — not only to machine but to operator! He has perfect control at all times—he can hover over a load, adjust a fraction of an inch without clutch or brake action! Cuts operator and equipment fatigue and wear!

THROTTLE CONTROL! POWER to start a heavy load without "slip-clutching" at high speed— POWER CONTROL to pick up heavy loads smoothly and quickly!

The GM *Dynaflow Drive* is a torque converter *combined* with a fluid clutch. The ORTON Crane with GM *Dynaflow Drive* AUTOMATICALLY PROVIDES THE CORRECT TORQUE in the *exact amount needed* to move the load!

ORTON
Crane and Shovel Co.
608 So. Dearborn Street
Chicago 5 • Illinois

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The Stand that HUGS THE GROUND

If you're looking for a switch stand that fairly hugs the ground, then you have the answer in Bethlehem's 1222.

This is a compact stand that's especially useful in crowded yards or confined locations. When used without a target or lamp, the 1222 rises only about 5 in. above the level of the ties. It can be fitted easily into tight places; lies so close to the ground that it isn't a hazard to overhanging loads.

In spite of its compactness, however, the 1222 is a powerful stand designed for rail above the 60-lb class. Equipped with a sliding block and crank device, it builds up great leverage, yet can be thrown with little effort. An adjustable screw eye, threaded into the crank, makes possible switch throws ranging from 3½ to 6 in.

The 1222 is designed primarily for yard service, but it is also suitable for receiving and departure track. Why not let us give you full details—or better yet, show you some installations?

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

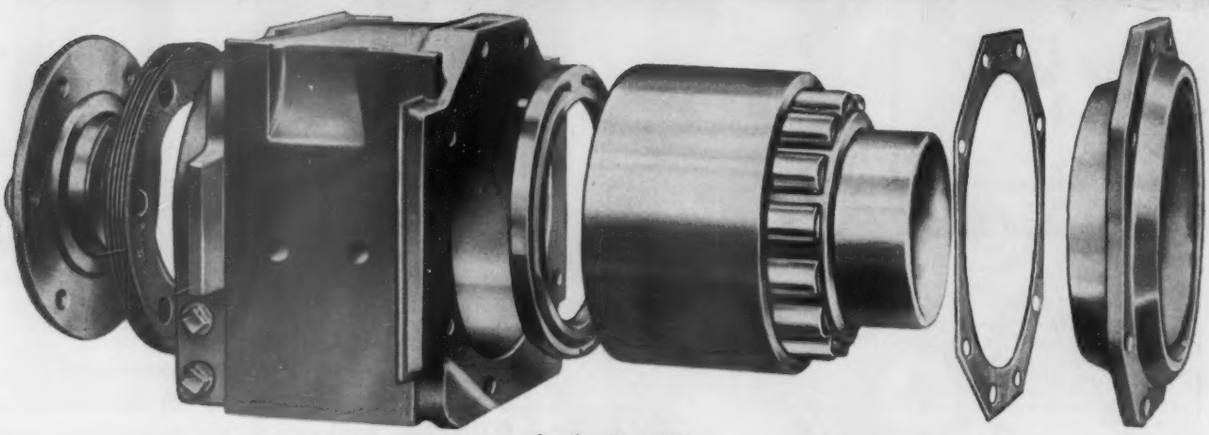
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM STEEL

DO YOU KNOW ALL THESE BETHLEHEM TRACK PRODUCTS?

Bolts and nuts Crossings Frog plates
Frogs Gage rods Guard rails
Joint bars Rail braces Rails
Spikes Switches Switch heaters
Switch stands Tie plates

"It's easier with HYATTS"



yes...easier in so many ways

Hyatt Journal Boxes are completely dependable; liberal proportions of all parts insure long trouble-free life.

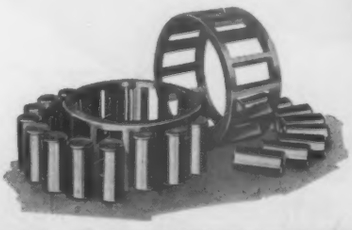
Boxes can be removed from car axles easily and quickly without breaking press fits.

All parts, down to individual rollers, are completely accessible for thorough cleaning and inspection.

Free lateral movement of axles reduces wheel flange wear and improves riding quality.

Interchangeability permits storing protective spare wheel sets with only inner races and water guards instead of complete journal boxes.

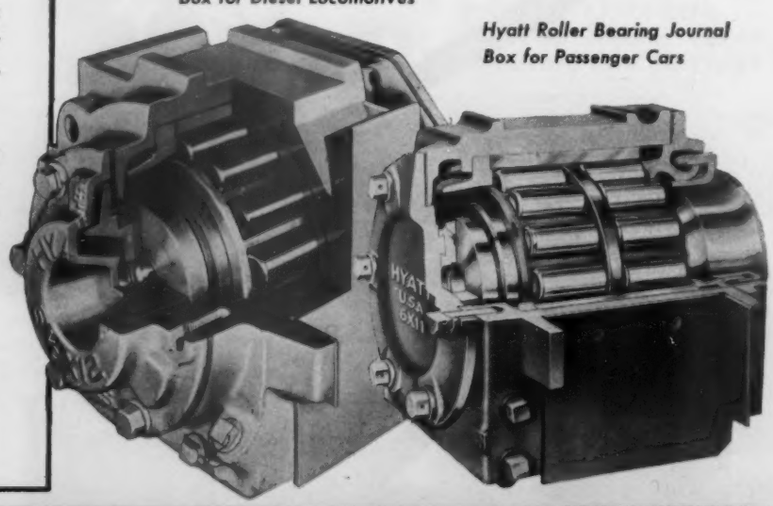
Patented taper relief virtually eliminates axle breakage resulting from inner race press fits.



To help you to understand a little better the advantages of Hyatt Roller Bearing Journal Boxes, we have prepared a plastic journal box visualizer, with which you will be able to demonstrate for yourself many of the maintenance advantages available with Hyatts. Prove to yourself it's easier with Hyatts. Write for your journal box visualizer today. Hyatt Bearings Division, General Motors Corporation, Harrison, N. J.

Hyatt Roller Bearing Journal Box for Diesel Locomotives

Hyatt Roller Bearing Journal Box for Passenger Cars



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Vol. 130, No. 8 February 26, 1951

RAILWAY AGE

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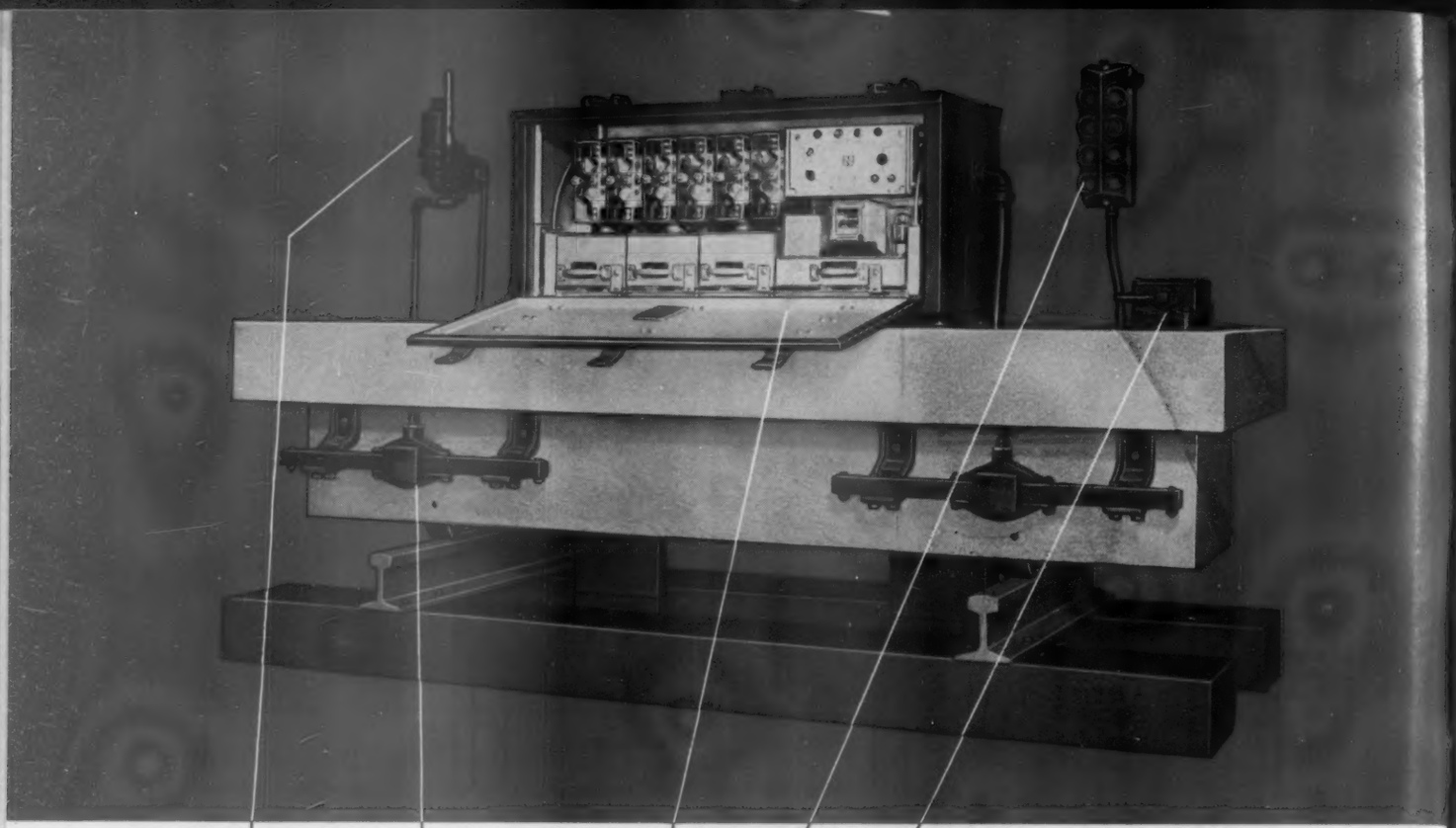

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ENGINE-CARRIED EQUIPMENT

RECEIVER

Picks up, by induction, electric impulses from the current in the rails . . . transmits them to the control equipment box.

CONTROL EQUIPMENT BOX

Consists of a filter, amplifier, decoding units, relays, etc., to filter, amplify and decode the impulses from the receiver for control of the cab signal and whistle.

CAB SIGNAL

In plain view of the engine crew, the cab signal continually indicates track conditions ahead by means of color-light or position-light aspects.

WHISTLE

Within hearing range of the engineman, the whistle sounds a warning whenever the cab signal changes to a more restrictive indication.

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Convenient to the engineman, the acknowledging switch provides a means for silencing the warning whistle.

"Union" Type E Cab Signal equipment can be furnished for two, three, or four-indication signaling. For full details write to any of our district offices.

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WEEK AT A GLANCE

IN THE SPOTLIGHT: January gross 26.9 per cent above last year.—Orders reported for 4,110 freight cars in this country and 2,300 in Canada.—Inquiries or authorizations for 67 diesels and from 7,950 to 8,250 freight cars.—A.A.R. Mechanical Division to meet at Chicago June 26-28.—1,641 locomotives on order February 1.—N.Y.C. to make extensive track changes near Syracuse, N. Y.—Rutland to buy its first five diesels.—B.R.T. fined total of $100,000 for "contempt" in "sickness" strikes.—U. P. says senator tries to "influence" I.C.C. in Ogden gateway case.—Frederick becomes D.T.A. consultant.—Rock Island opens new freight cutoff line at Denver.—W. K. Bush, of Burlington, heads Western Association of Railway Tax Commissioners.—Latest "Monthly Comment" covers effect of retroactive mail-pay payments on 1950 net; accident and efficiency records; effect of average load on car supply, and growth of heavy trucking on main rural highways.—Railway Express Agency wins from I.C.C. specific approval of "exclusive-agency" provisions in its contracts with railroads, thus removing basis for anti-trust complaint against it.

RELOCATION: When the federal government decided to protect the city of East Peoria, Ill., from further damage by flash floods, it meant moving day for the T.P.&W.—for, at least, 4.5 miles of it east of the city. The line relocation involved several fills, two cuts—one of exceptional size—and some difficult and interesting drainage problems. The solution of these, and the work as a whole, are described and illustrated with pictures, map and diagram, on pages 22-25.

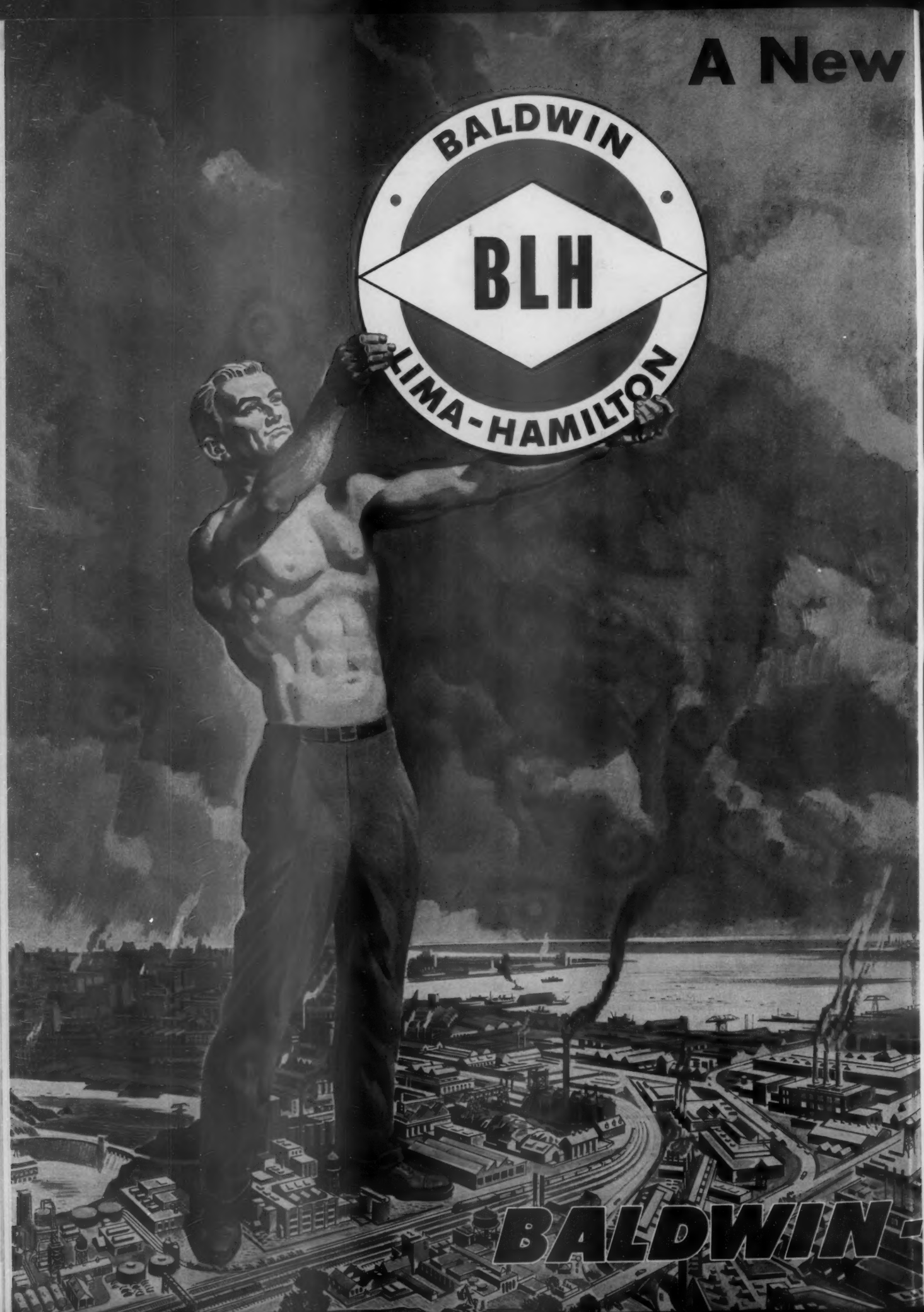
CUBAN RAILROADS: Prompt rehabilitation and merger, under private management, of the two principal public service railroads of Cuba—the United of Havana and the Consolidated—have been strongly urged by a technical survey mission of the International Bank for Reconstruction and Development. The mission's report, which constitutes the basis for the illustrated feature story beginning on page 34, underlined the necessity for immediate action by saying there is a real possibility that the Caribbean republic's 1951 sugar crop may not be adequately handled and a probability that transport service for the 1952 crop may not be available. Among causes listed by the mission's investigators as contributing to the present urgent situation of the Cuban public service railroad system are inadequate freight and passenger tariffs, antiquated rolling stock, overcapitalization, growing motor truck and bus competition, increasingly heavy labor costs and consistent antagonism by labor toward introduction of mechanical methods for lowering freight transfer costs at ports. Neither nationalization nor government subsidies are likely to solve the basic problems, the report emphasizes.

TALKING BACK: In a strongly worded statement sent to its 200,000 stockholders, Walter S. Franklin, president of the Pennsylvania, has hit back hard at some of the one-sided, ill-informed and unjustified criticism heaped upon the P.R.R. for "alleged unsatisfactory" conditions on its subsidiary Long Island. Among other things, the statement indicates that the Pennsylvania intends to fight any attempt to put the L. I. into public ownership without adequate compensation to its owners. Meantime, the L. I. itself has applied to the New York Public Service Commission for a 20 per cent increase in commutation fares—the minimum increase that would probably be imposed by any public authority—"in order that the possibility of private reorganization may not be foreclosed." The fare increase proposal is reported in the news pages, along with a digest of Mr. Franklin's statement, which puts the blame for the Long Island's bankruptcy squarely where it belongs, on public regulatory and taxing authorities.

DOUBLE TO SINGLE: Last year, the Milwaukee was faced with the necessity of laying new rail on some 67 miles of double track between Green Island, Iowa, and Marion. But traffic over the line had changed considerably in the 40 years since the second track had first been put in service; motive power had been improved, and new systems of signaling had become available. So today the line is single track once more—but single track with centralized traffic control. Trains are being efficiently handled—and the Milwaukee has saved $1.5 million by relaying rail on only one track instead of two. A description of the job, with pictures and a track diagram, begins on page 26.

MAIL BY TRUCK? The Post Office Department, according to one of this week's Washington news reports, is apparently making definite plans to move mail by truck instead of by rail for distances of as much as 200 miles from a number of key cities; bids for the first such routes are, reportedly, to be asked for within the next few weeks. The move is a result, our report says, of the railroads' long-pending petition for adequate compensation for mail transportation; it could, it is said, result in a loss to the railroads of $100 million a year in gross revenues. But what—if any—loss this would mean in net hasn't, so far as we know, been estimated. Substantially less, obviously. Our news account, incidentally, quotes a department official as saying, in effect, that it "won't put many more trucks on the roads." Percentagewise, he's probably right, considering the already overcrowded condition of most highways. But we know a lot of private motorists who would say that even *one* more truck is one too many.

"SUPER CHIEF" (continued): Last week's issue included an illustrated description of new dome-lounge and dining cars built by the Pullman-Standard Car Manufacturing Company for the Atchison, Topeka & Santa Fe's luxurious new "Super Chief." Complementing that article is another, beginning on page 28 of this issue, and also copiously illustrated, which describes the new sleeping cars built for the same train by the American Car & Foundry Co. The new cars are of three types—observation-sleeper, bedroom-roomette, and bedroom-compartment-drawing-room.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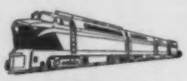
Symbol of Service to Industry

Representing the combined facilities of two of America's leading suppliers of industrial machinery and equipment, this new Baldwin-Lima-Hamilton symbol is backed by many decades of experience, a progressive and continuing research program, and the most modern engineering and manufacturing techniques. It represents the activities of eight plants spotted from coast to coast and numerous established sales outlets, strategically located for prompt, competent service.

The dispersion of B-L-H manufacturing facilities permits "local" handling and delivery on many items to the important producing areas. It also conforms to the projected pattern for better national defense.

You have undoubtedly used many of the products offered by Baldwin, by Lima-Hamilton and by various subsidiaries, but you may not know, today, how well the Baldwin-Lima-Hamilton Corporation is equipped to supply your needs.

This array of products will suggest added opportunities for you to benefit from the expanded production-distribution-service facilities Baldwin-Lima-Hamilton now offers.



RF-16, 1600-hp. Diesel-Electric Road Freight Units.

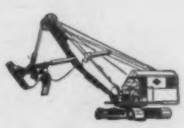
AS-616, 1600-hp. All-Service Diesel-Electric, Six Motors.

AS-16, 1600-hp. All-Service Diesel-Electric, Four Motors.

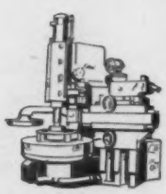
S-12, 1200-hp. Diesel-Electric Switching Locomotive.

S-8, 800-hp. Diesel-Electric Switching Locomotive.

Cranes and Draglines, Wheel or Crawler Mounted, to 110 tons.



Shovels, Wheel or Crawler Mounted, ¾ Yard to 6 Yard Capacities.



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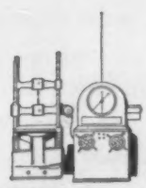

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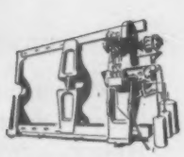
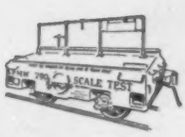


Hydraulic Wheel, Bushing and Metal-Forming Presses.



Track Scale Test Cars, 40,000 to 100,000 Pounds.

Baldwin-Lima-Hamilton Corporation, Philadelphia 42, Pennsylvania. **Plants:** Eddystone and Burnham, Pa.; Lima, Hamilton and Middletown, Ohio; Rochelle, Illinois; Greenwich, Connecticut; San Francisco, California. **Offices:** Chicago, Cleveland, Houston, New York, Philadelphia, Pittsburgh, San Francisco, St. Louis, Washington

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Save two ways...with this

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1. Clean and prime with S-W KROMIK for better, 4-PIGMENT protection

Metal structures in railway service need the time-proved *four-pigment* protection of KROMIK—the primer that combines the protective properties of red lead with three other protective agents for far tougher, longer-lasting service. Zinc chromate inhibits corrosion . . . zinc oxide adds strength and hardness to the film . . . red lead fortifies the water and corrosion resistance . . . iron oxide adds protection against sunlight and greater covering power.

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Finish coats for bridges and metal structures must dry quickly to prevent damage from rain, yet provide a film tough and elastic enough to withstand extremes of temperature and moisture.

METALASTIC provides the water-shedding properties of carbon and graphite . . . dries quickly even in cold or moist weather . . . produces a highly elastic, long-lasting, abrasion-resisting film ideal for railway application. Supplied in black, colors and aluminum.

Here's a maintenance-of-way program that can save costs two ways . . . in better protection for structures that are getting constantly costlier to replace . . . in reducing need for frequent repainting! Get full details on these and other finishes in the complete Sherwin-Williams line for railway service. Write The Sherwin-Williams Co., Transportation Division, Cleveland 1, Ohio.

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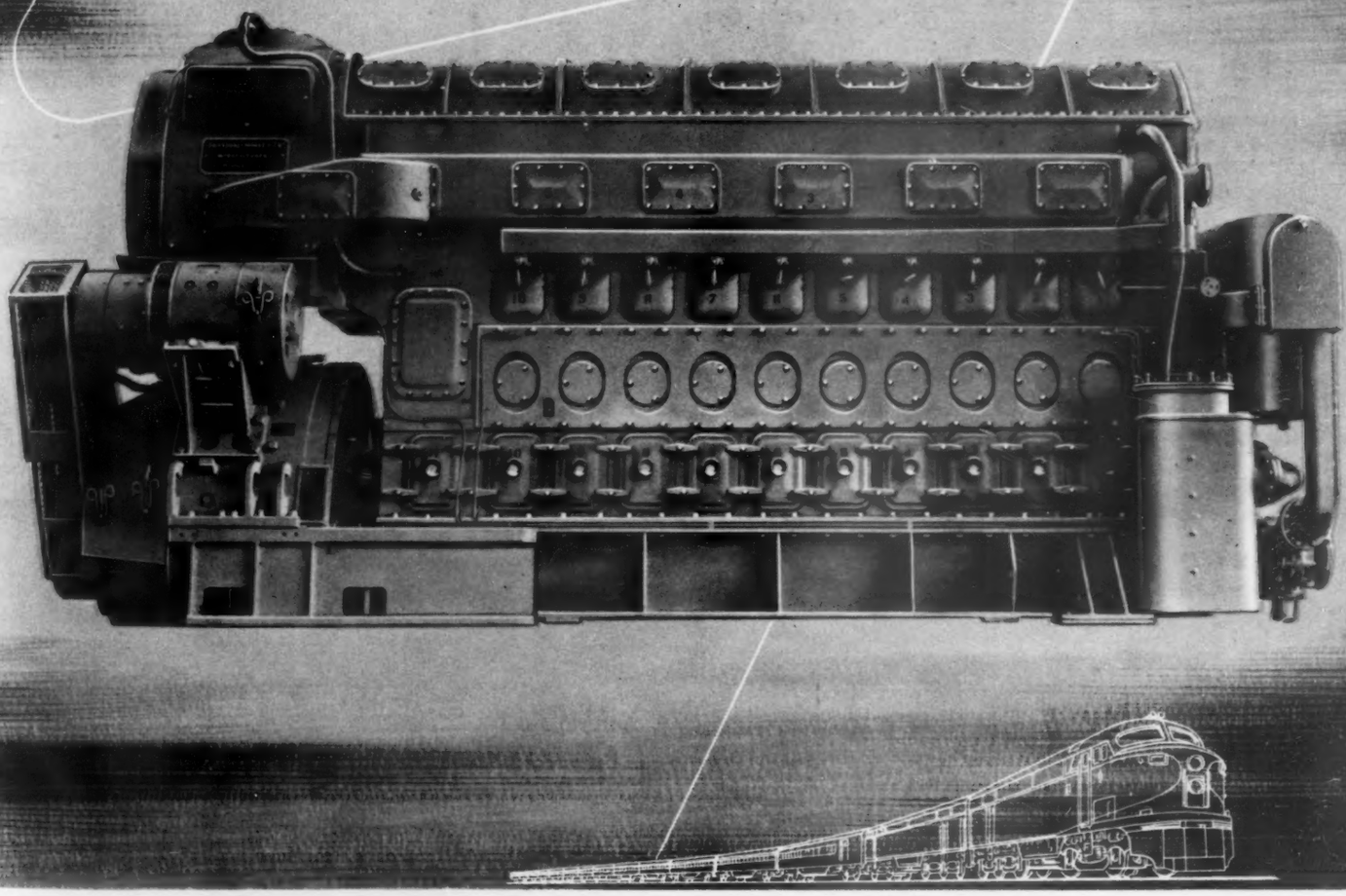

FAIRBANKS-MORSE
OPPOSED-PISTON
DIESEL ENGINES

DESIGN FACTS TALK A RAILROAD MAN'S LANGUAGE

inside story
of the outstanding
success of
OPPOSED-PISTON
engine performance

- ***Two pistons*** in each cylinder driven apart by a central combustion.
- ***More power for per foot of length:*** only one engine per locomotive unit in all horsepower classes. Shorter engine means a shorter over-all locomotive, k-to-k.
- ***Two-cycle design:*** no valves, no cylinder heads. Opposed-Piston engines have over 40% fewer moving parts to maintain.
- ***Counter-rotating crankshafts:*** dampen vibration to a point impossible with conventional single crankshaft engines.
- ***Low piston travel speed*** and low BMEP; minimize wear and lube oil consumption.
- ***Maximum interchangeability*** of parts between all sizes of engines: lower investment required for repair and maintenance parts stock.
- ***Over five million horsepower in use:*** the Opposed-Piston engine has a proved background of locomotive service.
- ***Maximum accessibility:*** railroad men say the Opposed-Piston engine can be serviced—even completely overhauled—far faster, to give minimum turn-around time.
- ***Most efficient scavenging:*** assures low fuel consumption. Positive displacement-type blower is rugged, trouble-free.
- ***Four sizes:*** 1200, 1600, 2000 and 2400 horsepower. Each designed and built for its rated horsepower—not "rated up" from lower horsepower.

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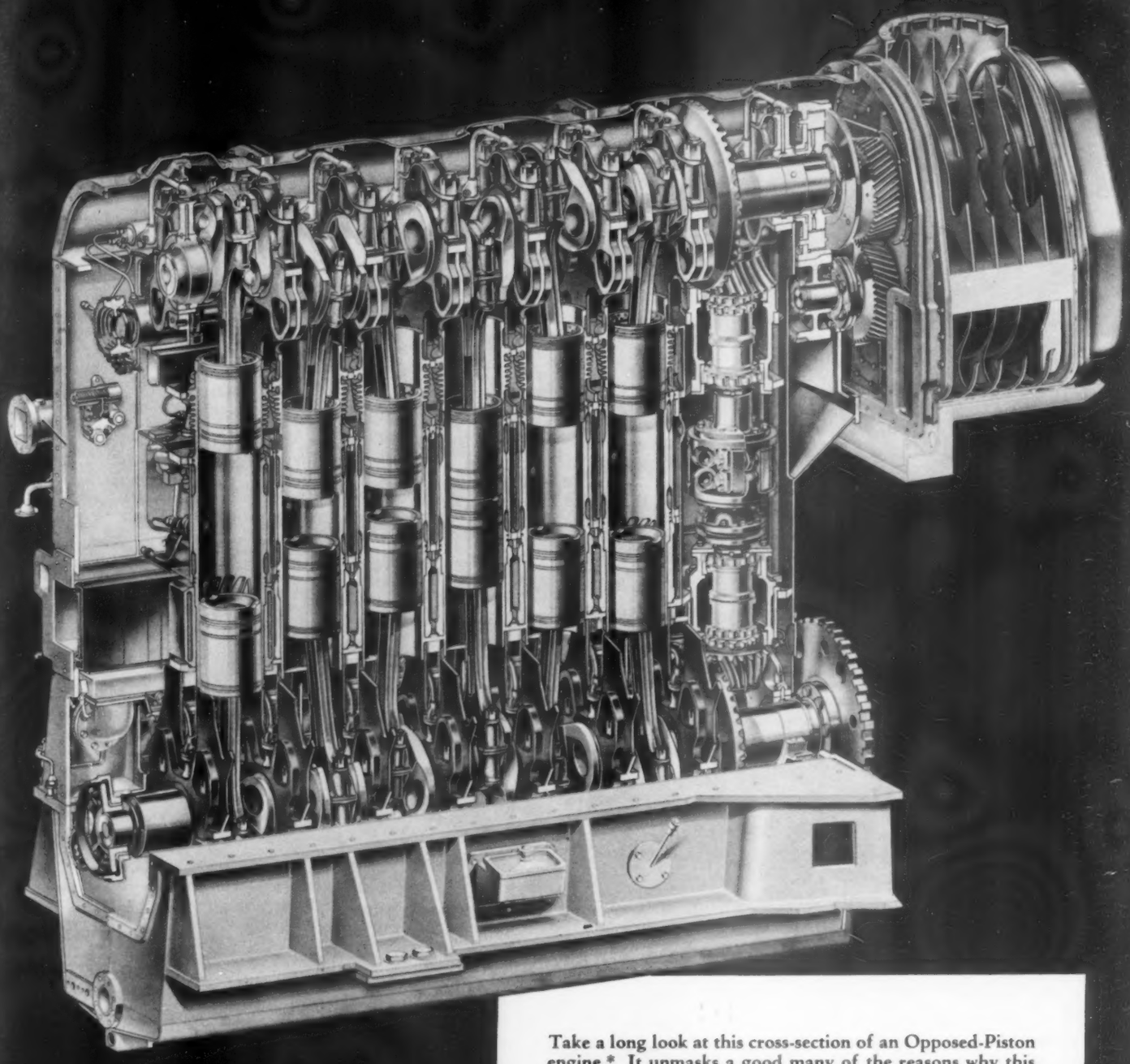


no other engine

so right

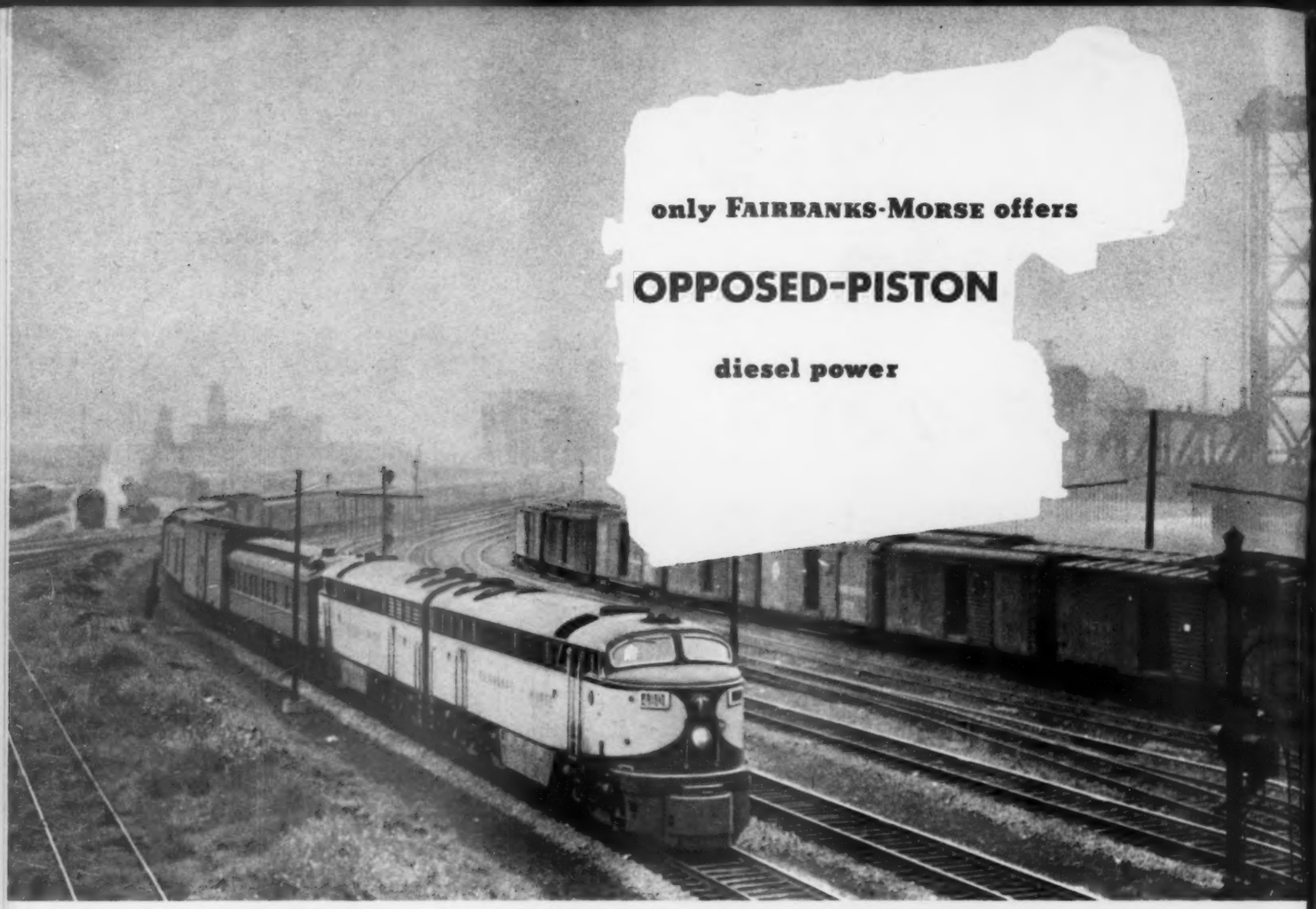
for railroad duty!

Take a long look at this cross-section of an Opposed-Piston engine.* It unmasks a good many of the reasons why this exclusive Fairbanks-Morse design is so ideally suited to locomotive application—why Fairbanks-Morse locomotives so powered have in a relatively short time become among the top three in the industry.

No locomotive is better than its engine. Bearing this in mind, check the primary Opposed-Piston advantages listed here against those of any other engine in locomotive service. Balance them against your requirements for power, fuel economy, reliability and ease of maintenance. Then *talk* with railroad men familiar with Opposed-Piston engine powered locomotives. It all will add up to an impressive background of evidence you can't afford to overlook when choosing diesels for your road.

*One of 16 transparent cross-sections in the fascinating O.-P. engine transvision book that enable you to see inside this great engine. For your copy, write Fairbanks, Morse & Co., Chicago 5, Illinois.

MORSE



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OPPOSED-PISTON

diesel power

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Powered by any one of three Opposed-Piston engines—1600, 2000 and 2400 horsepower—C-Line road locomotives have set new standards for versatility, tracking qualities, easier maintenance, and pulling ability at all speeds. Identified with maximum interchangeability of all components and "unitized" construction that simplifies maintenance, C-Line locomotives are built on one standard car body — can be equipped with any one of six gear ratios to make as many as 78 different locomotives in horsepowers up to 9600.

All-Purpose Road, Transfer and Switching Locomotives

1200, 1600 and 2000 Opposed-Piston hp. locomotives with axle loadings and gear ratios appropriate for all services, including high-speed freight, heavy-duty yard and transfer, commuter and switching. For more complete information on any or all of these Fairbanks-Morse Opposed-Piston diesel engine powered locomotives, talk with your local Fairbanks-Morse locomotive specialist. For his address write Fairbanks, Morse & Co., Chicago 5, Illinois.

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SCALES • HOME WATER SERVICE EQUIPMENT • RAIL CARS • FARM MACHINERY

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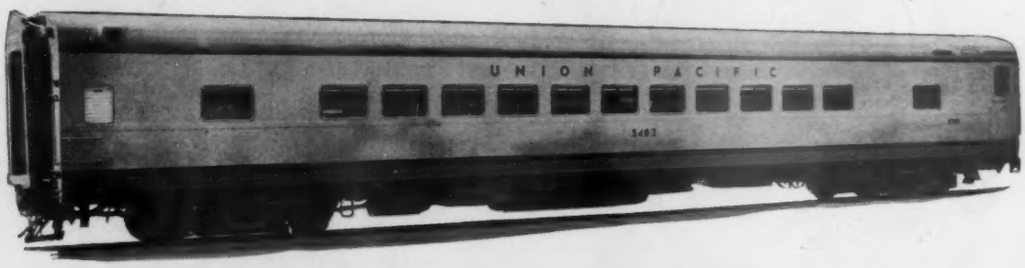

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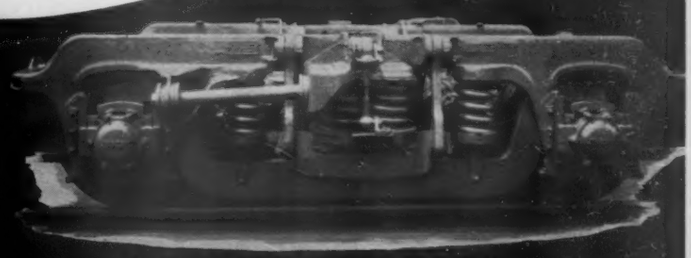

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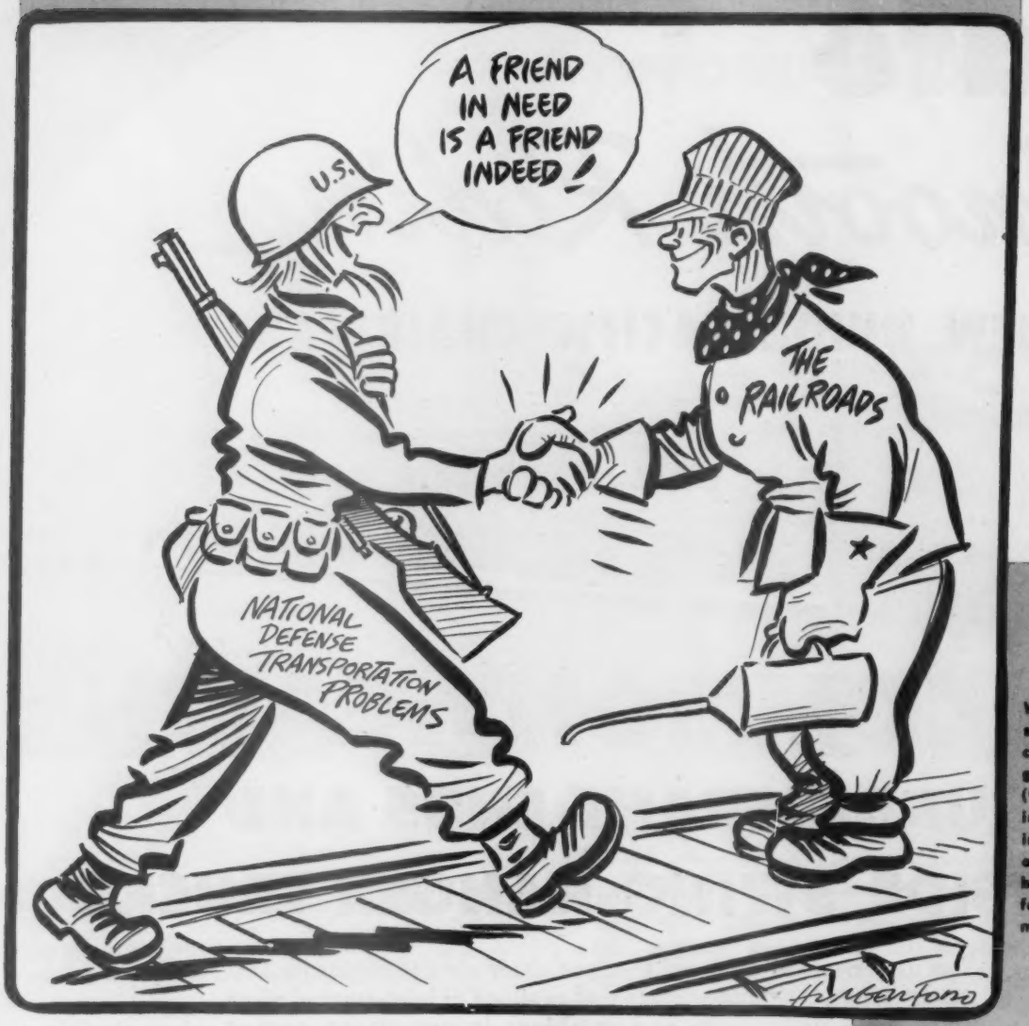

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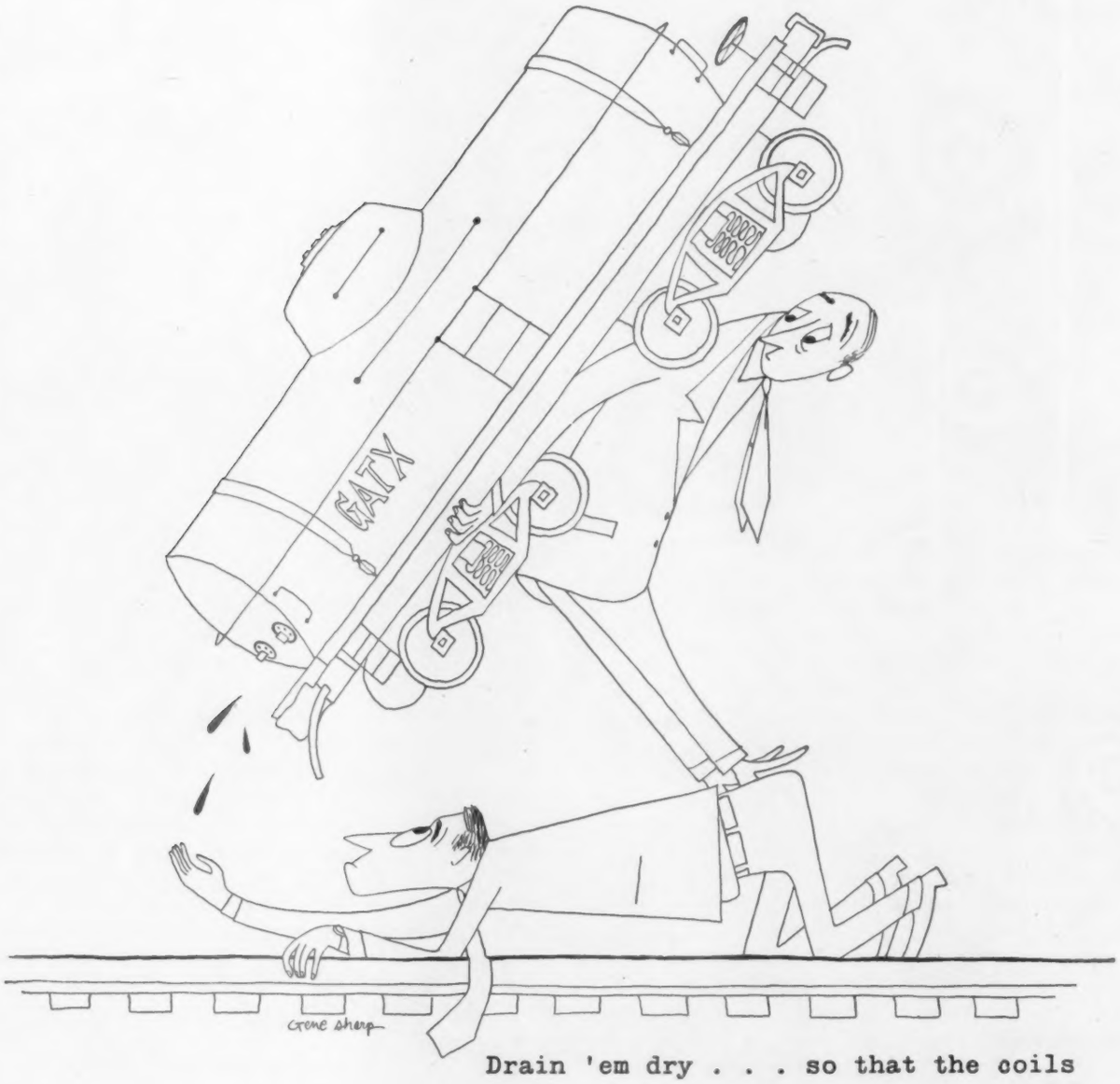

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HARSH WORDS FROM MR. PEGLER

The "guilty" plea of the Brotherhood of Railroad Trainmen to the contempt-of-court charge, growing out of the February "sickness" strike of yardmen, should have occasioned little surprise. That is the course which usually produces minimum penalties, and softens the clamor for corrective legislation. The nominal fines laid upon the trainmen's organization—for both the December and February walkouts—would appear to average less than $1 apiece for the membership of the brotherhood. This is not a very grievous penalty, compared to the injury done by the strikers to the country's economy; and is a low price indeed for the reputation for toughness and daring, which the B. of R. T. has won for itself in the competitive arena of union leadership. Only John L. Lewis and his union have gone to greater lengths in challenging the authority of government itself—and the price Lewis and his organization had to pay for their bravado was considerably higher.

The trainmen's organization by its "guilty" plea doubtless also had in mind providing congressmen with an excuse for looking upon both the December and the February walkouts as a "closed incident," to which they now need pay little further attention. If the "contempt" cases were still in the courts—with no certainty that any penalties at all would be exacted—the lawmakers might have felt obliged to do some earnest legislating to inject a little peril into striking against the railroads, in the absence of extreme provocation.

Not a Boxing Match

If the affair were one of the boxing ring—rather than one in which the nation's sovereignty and safety are at stake—there could be little doubt that the B. of R. T. had won a clear-cut victory on points. Unfortunately for all Americans, however, the contest was no mere sporting event. The Brotherhood of Railroad Trainmen—and, inevitably by association in the popular mind, all other railroad unions—have lost public prestige and confidence. Once reputed to be the most responsible of unionists, they have now moved, in the public's estimation, into the category of those whose actions indicate a minimum of concern for the national welfare.

The striking yardmen will have noted, doubtless with anger, what Westbrook Pegler called them—"traitorous railroad hands," "rogues . . . [who] should be shot and dumped into dishonored graves." This paper, which respects Mr. Pegler as a courageous reporter, believes in this instance that his characterization of the striking switchmen in the terms he uses is inaccurate and unjust. It is a difficult matter to attribute motives to people with any assurance. It would be preposterous on the law of averages to suspect that 100 per cent of the switchmen employed by any one large railroad were conscious and deliberate traitors. Most men who strike do so because they want to retain the goodwill of their fellow-workers. There are hot-heads in every crowd, and if they want to start a strike there is nowadays very little in their way—because, as the law now stands, it is next to impossible to penalize individual strikers. So, when a strike is started by some mischief-makers, the rank and file go out too—knowing that nothing unpleasant will happen to them for striking, while something very unpleasant might happen if they did not. Nevertheless, there is enough plausibility in Mr. Pegler's charge to win it some credence. Many people will believe it—and railroad men and the railroad industry will suffer in public esteem because of it.

Actually, the switchmen in this case followed an orthodox pattern of crowd behavior—and crowds behave alike, whether they are composed of unionists, capitalists, prohibitionists or college students. Crowds experi-

ment at being unruly and, if they get away with it, they become more unruly—and so on and on until they seriously damage others and perhaps themselves, unless some superior force brings them up sharply with disciplinary action. Thereafter, they become tractable and submissive, in the absence of intolerable provocation. In *any* crowd there are always moderates, and there are always "wild men." When there is no restraining influence, the crowd follows the leadership of the wild men. When discipline is asserted, the moderates gain the upper hand.

The moderates have *not* been placed in the saddle in the switchmen's case by the nominal fines the B.of R.T. has accepted. Such fines could be no deterrent—the unionists, when they walked off the job, knew penalties of some such magnitude would probably be incurred, but they walked off anyhow. *What brought the strikers scurrying back to work was the government's threat to fire them, destroying their "seniority."* This penalty was not actually invoked—the mere threat of it was all that was needed to turn an insurrection against the United States government into a back-to-work scramble.

Simple Solution

In all common sense, then, why did the nation have to suffer a railroad strike in December and another one in February, when—as actual experience has now demonstrated—*the penalty of dismissal for illegal striking is a sovereign strike preventive?* The elaborate legal fiction of government seizure of the railroads is unnecessary. Endless White House conferences are unnecessary. Court injunctions secured late at night are unnecessary. The simple remedy of threatened dismissal which the Army finally got around to using—after intolerable damage had already been done—would have prevented this and all other railroad walkouts, past or future. All that needs doing is to write this penalty into the Railway Labor Act as the punishment for striking in violation of that act or against the awards of Presidential boards appointed under the act.

The capital punishment remedy proposed by Mr. Pegler is bloodthirsty to no purpose—when a more humane penalty would obviously accomplish the same end. Who really deserves to be shot, Mr. Pegler, when a kid grows up spoiled—the kid or his Old Man? In this case the Old Man happens to be the Congress of the United States, who spanks no unionists no matter what they do, and won't let their employers spank them either. Nobody is permitted even to shake a switch at them—except the Army under the elaborate ritual of government seizure and operation.

Rather than denounce railroad strikers as traitors and urge the gibbet for them, might it not be more reasonable, and just as effective, first, to have their action legally declared to be a minor civil offense, which will be punished by the withdrawal of privileges, specifically "seniority"? Striking on the railroads today—except for the fanciful magic of government seizure—is not a culpable act at all, in the eyes of the law. Why take out after an unruly lad with a gun, as Mr. Pegler suggests, when keeping him home from the movies for a month would probably make a good boy of him?

No one thing would help the morale of railroad men and the railroad industry so much as a legal framework of labor relations which would encourage leadership by the constructive forces among railroad unionists, and discourage the firebrands and "wild men." The law as it now stands plays right into the hands of the turbulent spirits—and, incidentally, is an open invitation to agitation by subversive elements.

Since the foregoing was written, Mr. Pegler has come along with another essay on the "sickness" strike in which he gets considerably "warmer" to the real issue. This time, instead of delivering his barrage of invective exclusively against the individual switchmen who walked out, he lets go at the higher-ups and at the "fraudulent device" of government seizure of the railroads. The reason this "fraudulent device" was used is that Congress hasn't provided any other device under which striking can be punished. Legislation is the responsibility of Congress, not of the administration. Congress threw out the iniquitous Wagner Act which governed labor relations in all industries except the railroads, and substituted the Taft-Hartley Act in its place. But Congress enacted no "Taft-Hartley" for the railroad industry. Instead it has left the railroads under the Railway Labor Act, with all its New Deal amendments intact. If there were no law against stealing and the country were overrun with thieves, whom would Mr. Pegler denounce then — the thieves, or the legislators who refused to make thievery hazardous for the thieves?

CORPORATE LIABILITY FOR ACCIDENTS

The indictment by a New Jersey county grand jury of the Pennsylvania Railroad for the fatal derailment at Woodbridge, N. J., on February 6 simply means, if the case comes to trial, that a petty jury will be called upon to sit in judgment on highly technical questions of railroad operating and safety practices that no petty jury can deal with intelligently. Our understanding is that the judge in the case could, if he so elected, dispense with a jury in a case of this kind. Be that as it may—with both the Interstate Commerce Commission and the state public service commission formally investigating the circumstances of this disaster — the intrusion of ordinary criminal processes into the case is purely gratuitous, and can serve no useful public purpose.

The justification for the punishments provided under the criminal law is that they act to deter potential wrongdoers from anti-social acts. What possible deterrent could punishment of a corporation for a misdemeanor add to the deterrent which already exists in its liability for dam-

ages under the civil law? This liability is so huge, that it would be impossible for law to add an *effective* deterrent beyond it. It has long been obvious that criminal prosecution of individuals—enginemen and trainmen—for involvement in accidents serves no useful purpose except to get the prosecutor's picture in the papers. The man's personal safety is so highly involved that anything which the criminal law adds to his jeopardy is beating a dead horse.

These things are known by sensible people familiar with the circumstances. It is a pity that more of them do not speak out and explain what they know to their fellow-citizens at a time like this. Be that as it may, this New Jersey case is not a matter of concern only to the one railroad unfortunate enough to be actually involved. It is evident that there is a public relations as well as a financial hazard of complex and dangerous possibilities in the handling of passengers in large numbers—and any railroad so concerned would find it profitable to follow this case closely. As a respected citizen once observed when he saw a condemned man led away: "But for the grace of God there go I."

THE SUPERVISOR, THE KEY MAN IN CAR REPAIRS

An operating vice-president recently said: "It is not my intention to minimize the importance of proper car design, but in the overall picture the real problem is the maintenance of cars. To provide satisfactory service to the public with proper cars, and to protect the railroads' investment in cars by keeping them moving, we *must* [the italics are ours] have proper maintenance. The necessity for maintaining cars to withstand the rugged abuse of modern railroading at high speeds, and the necessity for satisfying shippers with equipment in good condition has imposed a burden on railroad car departments which must be met."

In seeking means to translate these recommendations into actual practice, the operating officer said that the time and effort spent by car department officers in working out programs and improved practices accomplish little, if anything, unless knowledge and enthusiasm are transmitted down through the men who supervise to those who actually do the work. Unfortunately, this transmission becomes more difficult each day and requires extraordinary attention on the part of every car man. Some of the methods and practices used in past years in dealing with men in an effort to get work done properly are no longer effective. A new approach is necessary.

"The key man," said this officer, "is the supervising foreman. He is in a strategic position because, if he is a good foreman, he carries out to the best of his ability instructions from his superior officers and at the same time must train and develop men. For this reason, I say that foremen should be selected after a great deal of thought and you should ask yourself if the man you have in mind for a supervisory job is one who can lead others. Can he get work properly done without arousing antagonism? Can he teach others, and has he the patience and understanding necessary to do these things? It not, regardless of technical knowledge or skill, he probably will not develop into a successful foreman.

"Foremen generally come from the ranks and we must instill enthusiasm and interest in these men and train them for greater responsibility. In that way only can vacancies be filled as they occur with men who will develop into good foremen. Young men, newly hired, must be encouraged and taught. Those who for some reason cannot be developed should be replaced before becoming too deeply rooted in the organization. Others require instruction and patient explanation of mistakes so they will not occur again. Most of us make mistakes now and then and some men who are not here today perhaps would be here if their mistakes had been properly handled, or if they had received more encouragement and more education from efficient supervisory officers."

This railway officer recognizes one of the most difficult personnel problems that the railways, or any other industry, are facing today, namely that of building an adequate, loyal and well trained supervisory organization. In the railroad industry we have gone to great lengths for years to train apprentices, specialists in shop work, road service men and others in the ranks, but have we not fallen far behind other industries in the training of supervisors? It is gratifying to know that higher management is recognizing the real value of the men who stand between management and the "firing line."

"TRUCKS ALONE SHOULD PAY HIGHWAY COSTS THEY HAVE RAISED"

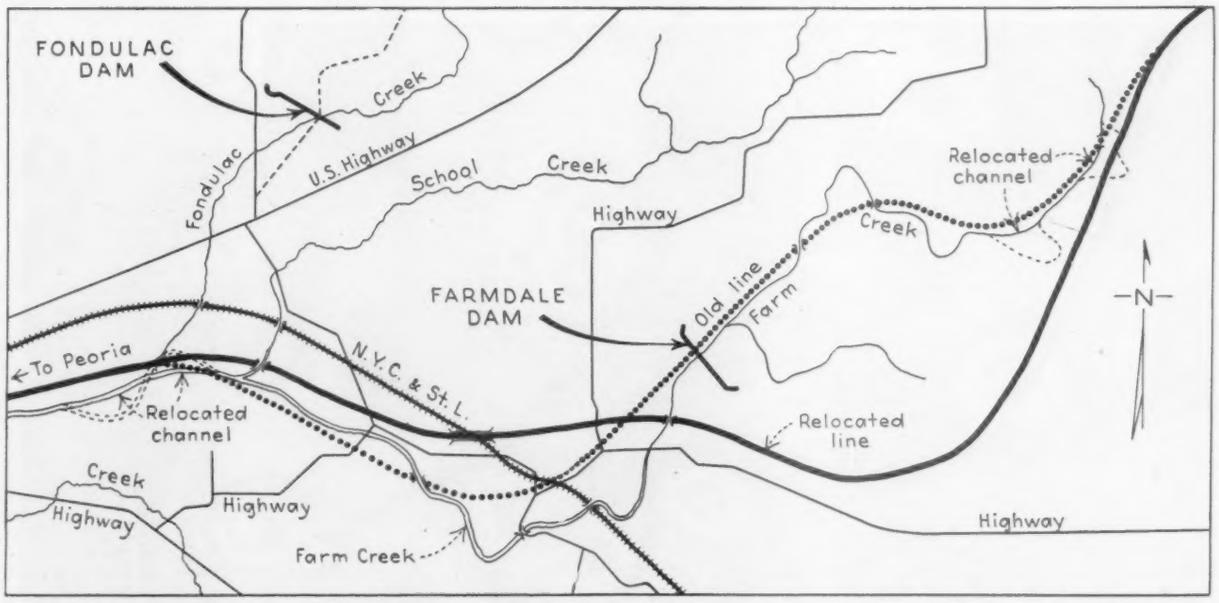
"We may not all agree as to the extent to which transportation competitive to the railroads enjoys public aids today, but there is no dispute that railroads are wholly supported by revenues drawn from rates and fares. The facts as to other transport, in this respect, are otherwise. Airway transport is subsidized beyond all dispute. So is inland waterway transport. The situation with respect to highway transport perhaps is less clear, but it is becoming increasingly plain that highway transportation is not as cheap as everybody once thought it was.

"We have developed the most extensive system of improved highways in all human experience. We ought not, under any avoidable conditions, sacrifice any of the advantages it has brought. But highway engineering reports uniformly agree that heavy trucks, many of them overloaded, are largely responsible for deterioration of our roads. These users should be required to contribute more relatively to highway costs than they are now doing. Overloading of highway vehicles does not serve the common interest as greatly as it serves the interests of the over-loaded truck operators. The users who require highways to carry heavy trucks and their loads, ought to bear the burden of additional cost. No part of it should be imposed on other users whose requirements are well served by lower cost roads."—*Z. G. Hopkins, special representative, Association of Western Railways, before the Downtown Lions Club of San Francisco, Cal.*

Only two cuts were involved in the line-relocation work, but one of them was about 1.5 miles long and from 30 ft. to 85 ft. in depth. Heavy earth-moving equipment of various types was used in the big cut

T. P. & W. Moved for Flood-Control Project

About 4.5 miles of line relocated through rough terrain that necessitated overcoming some unusual drainage problems



Construction of Farmdale dam, built by the U. S. Army to protect East Peoria, Ill., from damage by flash floods, necessitated the relocation of about 4.5 miles of T.P. & W. line in a job that involved some interesting problems

When the United States decided to take measures to protect the city of East Peoria, Ill., from being further damaged by flash floods, it meant a moving day for a part of the line of the Toledo, Peoria & Western. Such floods, coming from the watershed area of Farm creek and its six tributary creeks, had plagued this city for some years. The last serious floods, which occurred in 1943 and 1947, caused extensive damage to East Peoria's heavy-industry areas and kept thousands of employees from their work.

The government control plan, known as the Farm Creek, Ill., Flood Control project, as developed by the U.S. Army, Corps of Engineers, calls for three creek-channel improvements and the construction of two detention dams. One of these dams, designated as Fondulac dam, creates a reservoir area for the waters of Fondulac creek and the other, designated as Farmdale dam, holds back the waters from about 26½ sq. mi. of the upper watershed of Farm creek. It is anticipated that with the completion of this work, at a cost estimated at $10 million, the city will have protection from a flood resulting from 4.7 in. of rainfall in four hours, whereas the previous maximum flood conditions occurred when 4.19 in. of rain fell in four hours.

It was the construction of the Farmdale dam that necessitated the relocation of the T.P. & W.'s main track east of the city. The new line was built at a higher location outside of the valley of Farm creek through very rough and hilly terrain. The new alinement involved the construction of 4.52 miles of new track, which length is comparable with the old alinement, but the project reduced the curvature, provided a uniform grade, and eliminated six bridges over Farm creek. It also eliminated a railroad crossing at grade and an interlocking plant. The new line now crosses over the track of the New York, Chicago & St. Louis on a steel bridge.

The old alinement had four curves with a total central angle of 232 deg. 55 min., compared with four curves on the new alinement with a total central angle of 193 deg. 47 min. The curves of the old alinement were all compounded and ranged from 1 deg. 30 min. to 3 deg. 2 min. whereas the new line has one 1-deg. 30-min. curve and three 2-deg. curves, all simple curves with spirals at the ends. The curves were not compensated on the old alinement and the ruling gradient was one per cent as compared with a ruling grade of 0.835 per cent, compensated for curvature, on the new line.

Two Huge Cuts

The grading consisted of two cuts ranging from 30 ft. to 85 ft. in depth, amounting to 2.2 million cubic yards of earth excavation, and of fills ranging from 10 ft. to 40 ft. in height, requiring 0.9 million cubic yards of earth embankment.

The deeper cut is the longer, being about 1.5 miles in length. The second cut is only 35 ft. deep and is 500 ft. in length. The remainder of the new line is on earth embankments in which the material was placed in 6-in. layers, with each layer compacted by four passes of a sheepsfoot roller. Generally, the width of the roadbed was maintained at 22 ft. and the side slopes were made 1 to 2 on fills and 1 to 1¾ in cuts.

The general contract for the project was let to the Ralph Myers Contracting Corporation, Salem, Ind., which in turn sublet about half of the grading work to the Sherwood Construction Company, Wichita, Kan. This resulted in two different methods being used for handling the grading, as each contractor employed different types of earth-moving equipment. The Myers Contracting Corporation used 14 bottom-dump Euclid earth carriers, each having a capacity of 13½ cu. yd., which were loaded by two 3-cu. yd. draglines. In addition, this contractor used 15-cu. yd. scrapers plus a number of bulldozers, motor patrols and sheepsfoot rollers. The Sherwood Construction Company used seven Tournapulls and four tractor-drawn scrapers, plus several dozers, motor patrols and sheepsfoot rollers. Grading operations

Left — The side slopes are 1 to 1¾ in cuts and 1 to 2 on fills. A tractor "dozer" shaped the side slopes

Facing page—The first train over the relocated line was this long freight. Maximum curvature is 2 deg.

commenced April 1, 1948, and were completed on July 31, 1950.

Special Drainage Problems

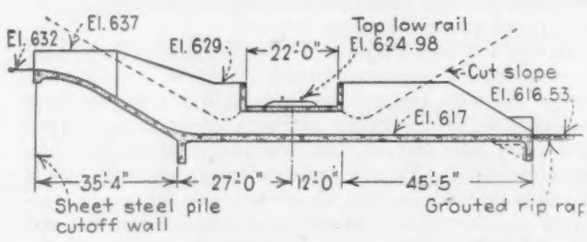
Because of the length and depth of the longer cut, several drainage problems were encountered here. At two locations in the cut, the grade of the railroad is below the flow lines of tributary creeks that discharge into Farm creek.

To cope with these situations, two unusual concrete culverts were installed.

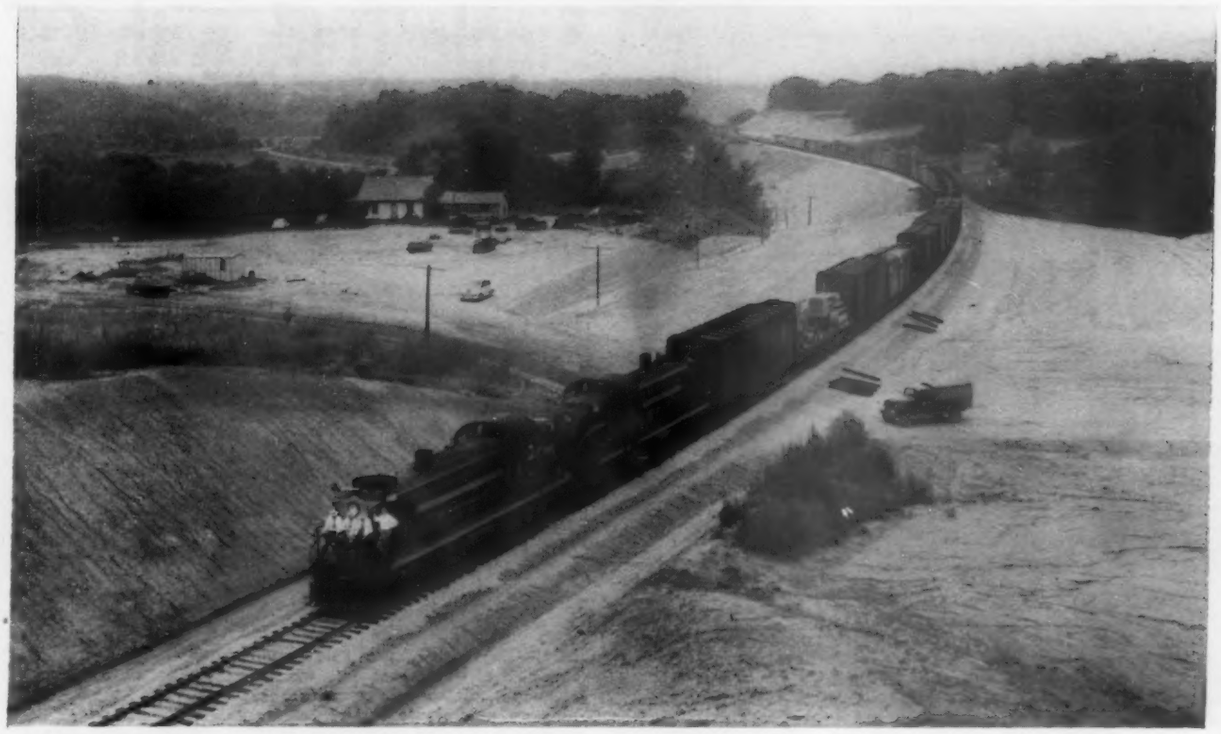
Both of these culverts were of the open-top type except where a heavily-reinforced concrete roof slab was built to carry the track across each opening. The tops of the sidewalls of these culverts are built at a considerable height above the flow lines of the culverts and the headwalls, which were built on each side of the roof slabs, were carried up to the same height, so that the track literally passes over the culvert openings in troughs. Both culverts have a flared inlet and a curved spillway, with a considerable drop in elevation, on the upstream end.

One of these culverts, built at an angle of 55 deg. with the track, has an invert drop of 9 ft. This drop in elevation was affected within the first 35 ft. of the inlet by introducing a 33 1/3 per cent grade and two short vertical curves. A one per cent grade was carried through the culvert barrel. Downstream from the culvert outlet, about 550 ft. of new channel had to be excavated for obtaining proper drainage. The size of the culvert opening under the roof slab is 6 ft. high by 15 ft. wide. Because the construction of the new culvert blocked the flow of drainage in the cut ditches, an opening was made in one of the culvert sidewalls to handle the track drainage on the upstream side, while a paved ditch was used on the opposite side of the track to pass the track drainage to the culvert outlet ditch.

The other culvert, constructed at right angles to the track, has an even greater drop in elevation. This drop is about 14.5 ft. which is carried out in the first 44 ft. of the inlet by means of a 57 per cent grade and two vertical curves. The invert grade through the culvert barrel is two per cent. The size of the opening under the roof slab is 5 ft. high by 6 ft. wide. Here, again, special provisions had to be made to handle the track drainage but in this case the drainage does not enter the culvert. A concrete drop inlet box was constructed on each side of the track where the cut ditches were blocked by the culvert sidewall. These boxes were then connected beneath the track by 26 ft. of 30-in. corrugated metal pipe, and an outlet emptying into the culvert outlet ditch was effected by 38 ft. of 42-in. corrugated metal pipe, with an automatic drainage gate at the discharge end. About 1,050 ft. of new channel was excavated for the culvert outlet ditch.



At two locations in the big cut, the flow lines of creeks crossing the new line were higher than the railroad grade, requiring the construction of two unusual open-top culverts. The headwalls on each side of the roof slabs that carry the track were built up to the same height as the culvert sidewalls, so that the track passes over the openings in troughs



Intercepting ditches were constructed where called for at the tops of the cut slopes to prevent their erosion. At some locations there was no practical ditch outlet away from the slopes for the water falling on the tops of the cut banks, so the drainage for these areas was handled by constructing paved ditches or flumes down the slopes of the track ditches. The upper ends of these paved slope ditches were protected from being undermined by the construction of cutoff walls made by driving interlocking-type corrugated sheetpiling in 6-ft. lengths. At the track-ditch end of the paved ditches, concrete landings were constructed with foundations reaching below the frost line to serve as stabilizers for the paved slope ditches and to prevent their being undermined. Concrete walls with an overhanging lip were constructed on the track side of the stabilizers to prevent the scouring out the track area by the flow from the ditches.

Traffic Detoured

There were two locations on the new line where construction work required the detouring of railroad traffic. One location was near the west end of the project where Farm creek crosses and recrosses over the new line and where temporary gaps were left in the grading to accommodate the stream until a channel change could be excavated to eliminate the loop. Unfortunately, the channel change also crossed the existing line so that, while the excavation for the channel change was being carried out, it was not practicable to use either the new or old alinements.

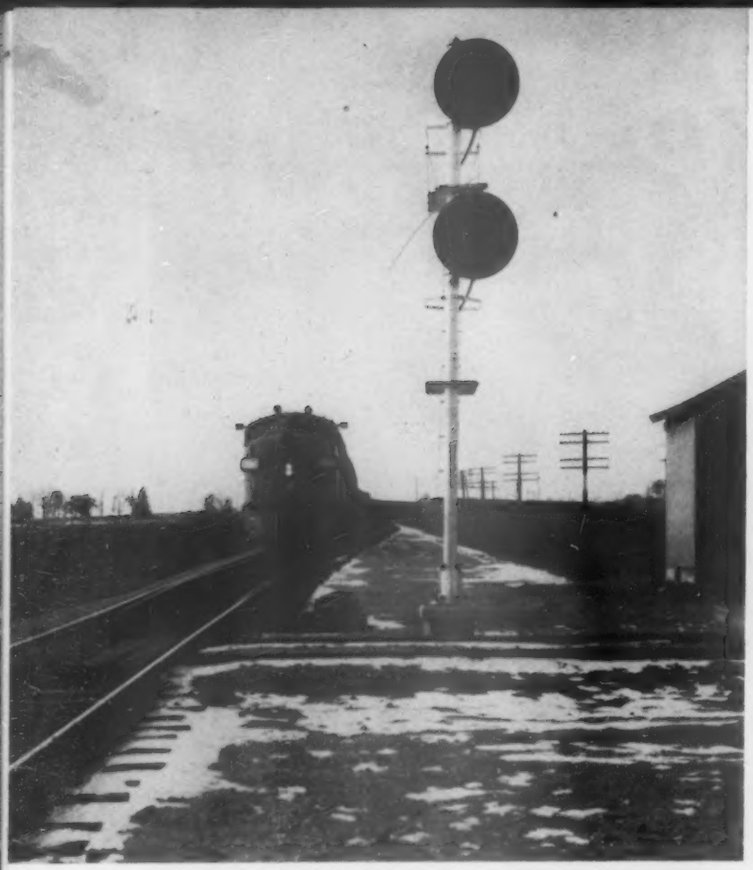
The other detour was for a point where the new line crosses over the old at an elevation approximately 19 ft. higher. During the construction of the embankment for the new line, a temporary gap was left in the fill at this point. When the track had been built on the new line, traffic was detoured for four days to allow the contractor to place about 25,000 cu. yd. of earth to fill the gap at this intersection point and to construct the new track.

A 4-in. layer of gravel was spread on the roadbed as subballast, and crushed stone to a depth of 4 in. under the ties was used as top ballast. The track was constructed of 115-lb. rail and fastenings laid on 6-in. by 8-in. by 8-ft. 6-in. creosoted oak crossties. The track was fully plated with 7¾-in. by 11-in. double-shoulder tie plates, and was anchored with 12 anchors per rail, using the box method of application.

Nickel Plate Crossing

For eliminating the railroad crossing with the Nickel Plate, an eight-span steel girder bridge was constructed to carry the T.P. & W. line over the other road. This bridge is located on a 2-deg. curve which crosses the Nickel Plate at an angle of 60 deg., requiring a structure having a length of 322 ft. The bridge substructure is comprised of seven concrete piers and two abutments, all founded on cast-in-place concrete piling. The superstructure consists of steel girders, 33½ in. deep, arranged to provide four 41-ft. 4-in. spans, two 35-ft. 6-in. spans, one 42-ft. span and one 43-ft. span, and was constructed by the Fitz Simons & Connell Dredge & Dock Co. of Chicago.

The project was carried out by the U. S. Government which was represented by John Gano, resident engineer, Col. W. P. Trower and Col. J. P. Campbell of the U. S. Army, Corps of Engineers, and by Charles Wicks, construction chief. The design of the railroad line change was by Svendrup & Parcel, consulting engineers, St. Louis, Mo., and the construction of this phase of the project was carried out under the general direction of J. Russell Coulter, president of the T.P. & W., Howard H. Main, chief engineer, and Randle H. Egbert, assistant chief engineer, while Donald E. Brunn, inspector, was the field representative for the road.



Single Track with C.T.C.

Because of changes in traffic, use of modern locomotives, and increased capacity due to modern signaling, trains are being handled efficiently on one main track, saving $1,500,000 in relaying rail on one track rather than two

Left—Single track at Dove with roadbed of former second track at the right. Below—Intermediate signals on new single track

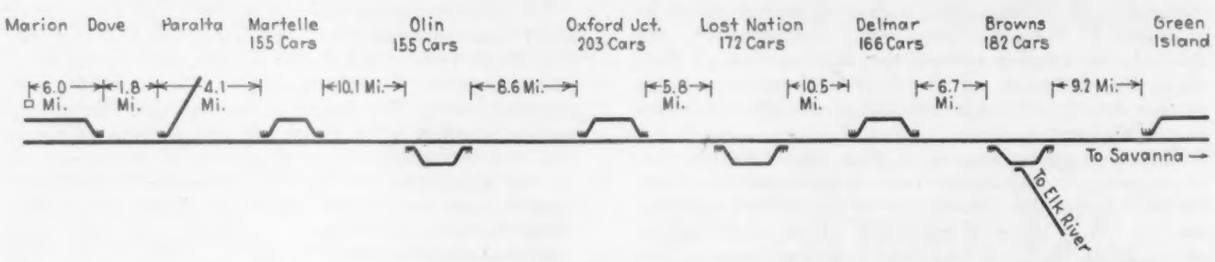


Diagram of present single track and sidings in section that was previously double track

Replaces Double Track on the Milwaukee

On 67 miles of road between Green Island, Iowa, and Marion, the Chicago, Milwaukee, St. Paul & Pacific has changed from double-track, equipped with automatic block, to single-track equipped with centralized traffic control.

This is a portion of the Milwaukee's route from Chicago west to Omaha, Neb., and Sioux City, Iowa. Forty years ago, when the second track was added in this territory, a large number of trains were operated, many of which were short freights handling livestock. In recent years, the traffic has changed, the railroads have lost much of the farm-to-market livestock traffic and present day traffic can be moved in longer trains at greater time spacing, taking advantage of the capabilities of modern high-powered locomotives operating at faster speeds. The effect has been to reduce the number of trains operated in this territory.

The "Midwest Hiawatha," a high-speed streamline diesel-powered daytime passenger train, is operated in each direction daily over this line, and one night passenger train is operated each way. Three time freights are scheduled each way, and a local freight is operated eastward one day and westward the next, excluding Sunday. Including extra trains, a total of 12 to 14 trains operate over the entire territory daily. In addition, trains to and from the Calmar line use the main line between Marion and Paralta.

Based on experience on sections of single track equipped with centralized traffic control on other parts of the Milwaukee, the management and operating officers were confident that the present-day traffic on the Green Island-Marion section could be operated efficiently on one main track. The occasion to take action in 1950 was that the rail on both main tracks in most of this territory was due for renewal. The renewal of rail on one track instead of both, for 62 miles, and the installation of C.T.C. saved $1,500,000.

New Track Layout

A section of the double track was left in service from Green Island west for one mile, and from Marion east for six miles to a new end of double track at Dove. Between Dove and Green Island, six passing sidings were established by using sections of the previous second main track, connected to the new single main track by new No. 11 turnouts with 22-ft. points. These sidings are long, ranging from 155-car to 182-car capacity, and are located at Browns, Delmar, Lost Nation, Oxford Junction, Olin and Martelle.

Most of these sidings are through small towns, with industry spurs and house tracks connected by hand-throw switches to the sidings. This arrangement has the advantage of removing these hand-throw switches from the main track, and a further aid is that the local freight trains can get off the main track onto such a siding and do switching without interference with through trains on the main track. A possible disadvantage of locating the sidings in towns, was that a train waiting on a siding would block street crossings. Experience has shown, however, that under normal operation with C.T.C. trains are not held on sidings more than a very few minutes. The sidings are much longer than train lengths, and in many instances the train using the siding does not stop when making a meet.

Interlockings Replaced

At Paralta, a mechanical interlocking was in service at a junction of the main line with a secondary line extending north to Calmar, Iowa. As part of the improvements, this interlocking was eliminated, and a section of the old second main was used to move the junction westward 1,432 ft. to a new junction switch which is operated by a new electric switch machine, and this machine, as well as signals at this junction, are part of the new C.T.C. system.

At Delmar there was previously an automatic interlocking to protect a crossing of a single-track secondary line with the double-track main line. Track changes were made to eliminate this crossing and the interlocking, when changing the main line from double to single track. At Browns there was formerly a main track switch from the main line to an old line via Elk River. In the new arrangement, this switch is connected to the siding.

These track layouts as revised include power-operated switches at the ends of double track at Dove and Green Island, at the junction at Paralta, and at the two ends of six sidings. These switches and signals at these locations are controlled from the C.T.C. machine in the dispatcher's office. The system includes signals for train operation by signal indication, not only on the single-track between Green Island and Dove, but also for train operation in both directions on both tracks on the 5 miles between Dove and Marion yard.

Signaling Arrangements

Single-direction automatic block signaling including upper-quadrant semaphores was previously in service on the double-track main line. This signaling included conventional d.c. track circuits and line-wire control circuits. When making the recent improvements, all this old signaling was replaced. The new signals are the searchlight type, and the track circuits are the coded type.

When using the C.T.C. control to clear a signal for a station-to-station train movement, a preliminary operation in the field is to cause the track circuits to feed from one siding to the next, in the direction opposite to the train movement. Thus all local signal controls are accomplished by track circuits without line wire circuits. After a train departs, the track circuits are normally energized by steady energy.

The intermediate signals are arranged as double locations, and are spaced approximately 2.5 to 3 miles apart depending on the overall distance between sidings. The signals including those at the sidings and intermediates are controlled to display three aspects, and controls are arranged for following train movements in a station-to-station block, the same as in conventional absolute permissive block signaling.

This installation of C.T.C. was planned and constructed by signal forces of the railroad under the direction of L. B. Porter, superintendent telegraph and signals. The major items of equipment were furnished by the Union Switch & Signal Co.

Looking forward in the observation-lounge

New Sleeping Cars for "Super Chief"

Three types of all-room cars for the Santa Fe include bedroom-roomette, drawing-room-compartment-bedroom cars, and observation sleepers built by the American Car & Foundry Co.

Three types of sleeping cars for the newly equipped "Super Chief" of the Atchison, Topeka & Santa Fe are among those which are being built for that road by the American Car & Foundry Co. These are an observation-sleeping car in which are four drawing rooms and one double bedroom; 15 cars each containing four bedrooms, four compartments and two drawing rooms; and 13 cars, each with six bedrooms and ten roomettes. In general exterior appearance these cars conform to the dome lounge cars and diners.*

Observation-Sleeping Car

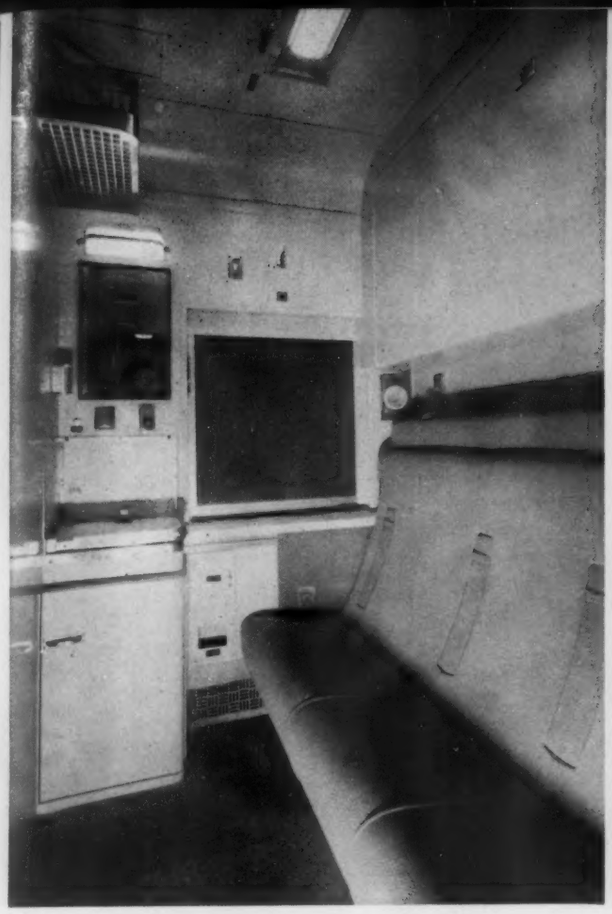
At the front end of the observation-sleeping car is a lobby flanked by service lockers and a general toilet. This extends to the side corridor, from the front end of which opens a double bedroom. This has accommodations for two passengers, utilizing a convertible sofa-bed placed crosswise and an upper berth. A folding washstand and a tilting retracting hopper are part of this room's equipment.

Four spacious drawing rooms are arranged along the same side of the car. These can accommodate three persons each. They are arranged in pairs with a door between, making possible a suite for six persons.

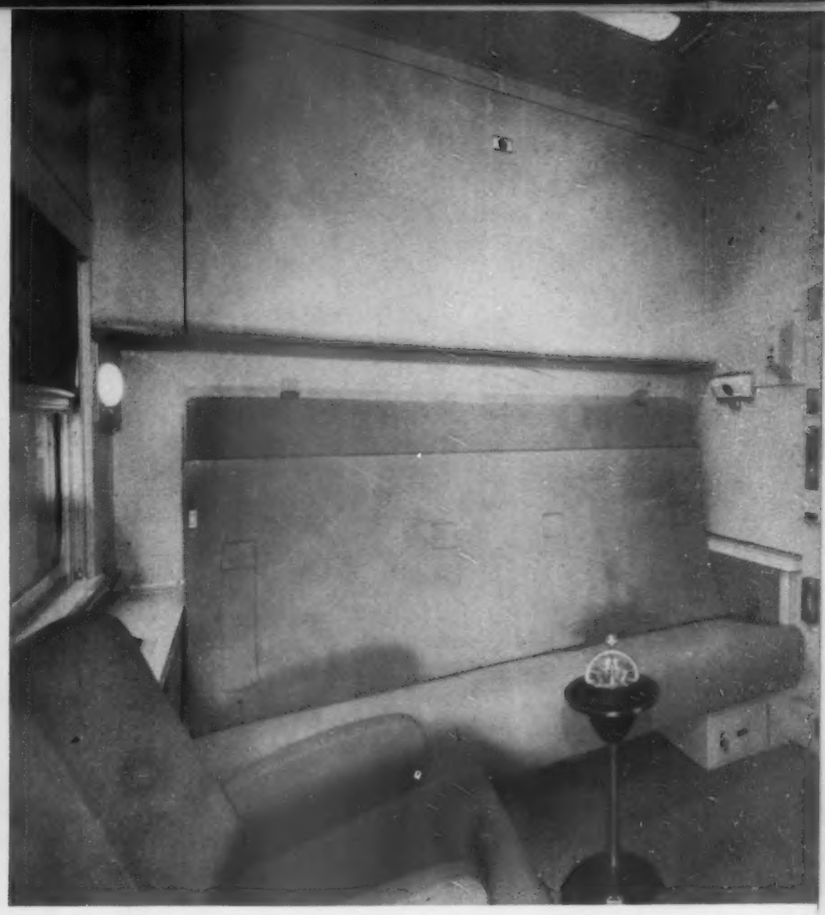
Each drawing room is equipped with a convertible sofa bed, an upper berth and a folding roomette-type wall bed. In addition, there are two folding lounge chairs in each room which can be stored under the folding wall bed at night. An enclosed lavatory and hopper are housed in the annex for each drawing room.

The observation lounge occupies the rear end of the

*These cars, built by the Pullman-Standard Car Manufacturing Company, were described in **Railway Age** of February 19.



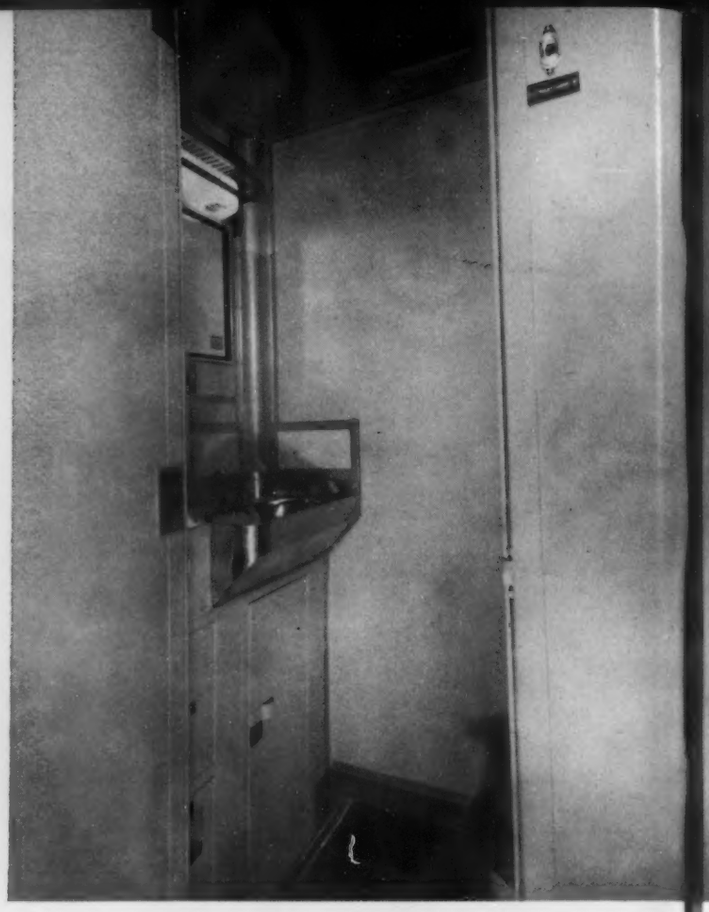
A bedroom interior with permanent lavatory and folding hopper



A drawing-room in the daytime

A compartment seen from an adjoining bedroom with the partition folded

Looking from a compartment toward a bedroom with the berths down



The lavatory and hopper are permanent in the drawing-room annex

car and has a length of about 24 ft. inside. The furniture in this room consists of 12 lounge chairs furnished by Karpen which have foam-rubber cushions, back and arm rests. They are upholstered with Goodall-Sanford Super-Needlepoint, eight of them in red and four in electra green fabric.

These chairs are arranged six on each side of the car, tapering toward the rounded end.

There are two Karpen built-in diagonal seats of wood construction with foam-rubber cushion and back and a base faced with stainless steel. These are capable of seating two persons each and are placed on each side of the lounge near the forward partition. They are covered with electra green upholstery. At each pair of seats there is a triangular table having a pearlescent gray Formica top.

Between the drawing-room partition and one of the diagonal seats there is a grayed oak writing desk and chair facing the side of the car. A magazine rack of grayed oak occupies the central part of the partition and a swinging door separates the passageway from the lounge section. A complement of five smoking stands, mail box, and decorative lithographs are provided in this room.

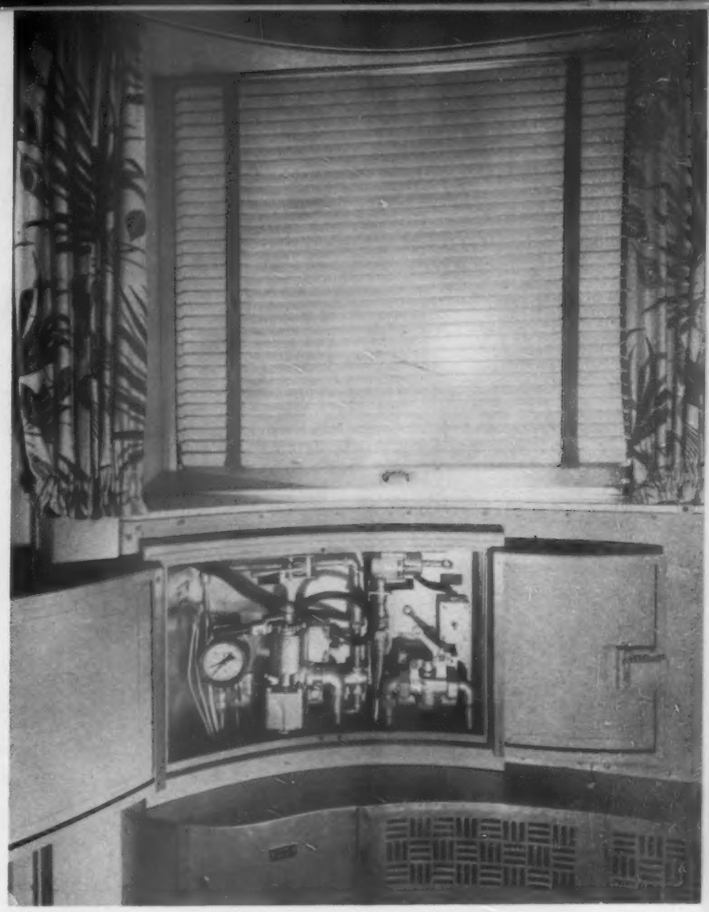
Mohawk carpet in the passageway is rust color, but in the lounge it is turquoise. The color scheme in the lounge is green on the dado, pier panels, frieze panels, and passageway door, while the ceiling is in blue. The bulkhead is covered with green Kalistron. In the passageway the ceiling and walls are gray enamel, except the doors leading to the drawing rooms which are green. The wainscot and passageway partition to window capping height are covered with gray Kalistron. Two of the drawing rooms are painted gray and two of them in green, the latter having blue ceilings. The observation room windows have Venetian blinds furnished by the Ajax Consolidated Company, while other windows are equipped with Adams & Westlake curtains of Goodall-Sanford Loomcord backed with Pantasote.

Bedroom-Roomette Cars

A short center aisle leads from the doorway of the 13 bedroom-roomette cars, with the porter's roomette on one side and lockers on the other. Six bedrooms are placed along one side of the car, taking up approximately half the length of the body, with a side passageway opposite. The entire arrangement is compactly designed to allow maximum accommodations in a restricted floor space. Three of the bedrooms have a convertible sofa-bed placed crosswise of the car. Over this is a standard upper berth.

Each of the other three bedrooms has a short crosswise seat and a longitudinal seat, with a back that folds down from the partition to form a lower berth. Over this is an upper berth of the ceiling type. A folding chair gives additional daytime seating. Each of the bedrooms has an individual annex enclosing the toilet and lavatory facilities. There is a wardrobe in the corner of each bedroom, and all rooms have individual air-conditioning inlets, lights, mirrors, fans, etc., for passenger convenience and comfort. Between the bedrooms of each pair there is a folding partition so that the two rooms can be made *en suite* if desired.

The remainder of the car comprises ten roomettes, five on each side. Each roomette has a folding bed recessed into the partition, a folding lavatory, hopper and wardrobe. A sliding door covered with a curtain com-



The compartment annex (left) has a folding lavatory. The back-up control and warning equipment (right) includes a back-up brake valve, a pneumatic horn, a train-signal valve, and back-up light switch

municates with the center aisle at each roomette. At the non-vestibule end there is a laundry locker on one side of the aisle and a general toilet opposite.

Four of the bedrooms are upholstered with rose color fabric. The ceilings are blue and the walls green. The remaining two rooms have green upholstery with gray ceilings, walls and partitions. Six of the roomettes have green upholstery and gray ceiling, walls and partitions, while the other four have rose upholstery, blue ceiling and green walls and partitions. The exterior is unpainted except for the black lettering.

Drawing Room-Compartment-Bedroom Cars

A total of ten sleeping rooms accommodating two persons each in the bedrooms and compartments and three in each drawing room occupy one side of the car, with a continuous passageway along the opposite side. Storage lockers, porter's quarters, and a toilet are placed at the ends.

There are four bedrooms, each equipped with a crosswise convertible sofa bed and a standard upper berth. In this room there is a stationary lavatory and a tilting hopper.

Also, there are four compartments, each having a longitudinal seat with back to fold down with the bed which forms a lower berth. An upper berth of the conventional ceiling type is over it. The compartments are larger than the bedrooms and have also a folding lounge chair, folding lavatory, and toilet annex.

Two drawing rooms are the largest rooms in this car. Each has a convertible sofa bed placed crosswise, with a berth over it, plus a roomette type berth that comes out of the partition. Two folding lounge chairs, arranged near the windows during the daytime, can be stored under this bed at night. An annex with hopper and lavatory enclosed is provided.

Some of the compartments are finished in light gray. Others are green with blue ceiling, while gray predominates on the outside walls of the passageway and bedroom partitions. The exterior is unpainted, except for the black lettering.

Three bedrooms and three compartments are arranged in pairs so that a bedroom and a compartment, separated by a folding partition, can be occupied *en suite*. The remaining bedroom and compartment can be arranged *en suite*, each with one of the drawing rooms. Communication is through a door in the permanent partition.

The porter's roomette has one seat with a back that folds down with the wall type bed. Seats and wall pads are upholstered with Goodall-Sanford Super-Needlepoint of rose in half the rooms and green in the remainder. All carpet is Beck & Blatchford gray Mohawk.

The cars are all 85 ft. long over the buffers, with truck centers 59 ft. 6 in. apart. The height of the floor is the standard 4 ft. 3 in. and the top of the roof 13 ft. 6 in. above the top of the rail. The cross-section of the cars follows the Association of American Railroads standard contour and the overall width over the side sills is 10 ft.

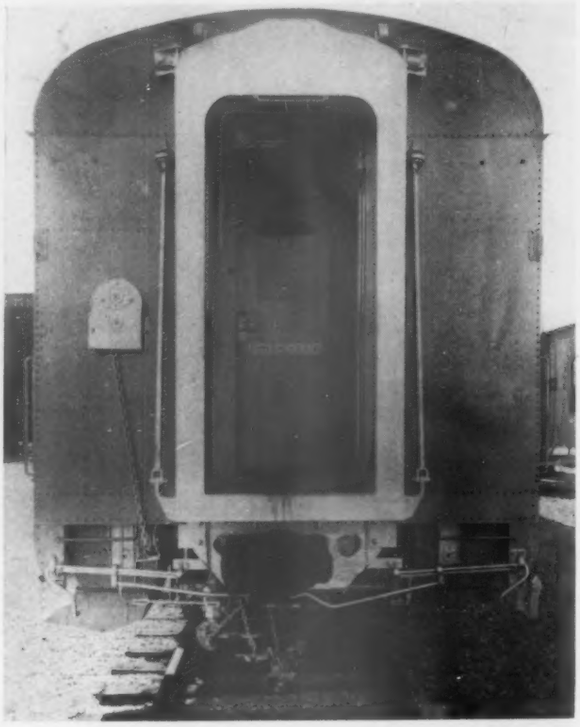
The car bodies are of girder type construction, employing low-alloy high-tensile steel as the principal material of construction. The exterior sheathing is of stainless steel with flat surfaces between the windows and on the ends and fluted moldings over the letter boards and below the windows on the sides. These are applied to the framing with self-tapping screws.

The principal members of the underframes are A.A.R. rolled Z section center sills, reinforced on both bottom

flanges, and the Commonwealth integral cast-steel combination bolster and platform end sill, including the draft-gear and buffer-mechanism housing. There are two side-sill members, one a rolled Z section attached to the cross members of the underframe by welding; the other, an angle section supplementary sill attached by welding to the post members of the sideframe. Cross members of the underframe are welded channel sections. Floor beams are pressed Z-shapes. Stampings from the webs reduce the weight of the cross members. Both welding and riveting are employed in assembling the underframe. The side frames, which carry the vertical loads, consist of plate, rail and sill horizontal members, to all of which the Z-section posts are welded. The letter board and lower side sheet are low-alloy high-tensile steel. The flat stainless-steel sheets over the pier panels are riveted directly to the side posts. The main end posts are 8-in. 28-lb. carbon-steel I sections, reinforced with ½-in. shear plates. All end framing is attached to an end plate of antitelescoping design built up of low-alloy high-tensile steel plate and angles at the vestibule end. At the blind ends all cars, except the observation-sleeping car, have end plates of 10-in. 15-lb. channels. The roof is formed of light-gage stainless-steel sheets riveted to the pressed Z shape carlines. It is assembled as a unit and its side plates are attached to the side frames by riveting.

The Estimated Weights (Lb.) of the Sleeping Cars for the Atchison, Topeka & Santa Fe "Super Chief"

Observation-sleeping car	142,600
Bedroom-roomette car	149,500
Drawing-room-compartment-bedroom car	150,750



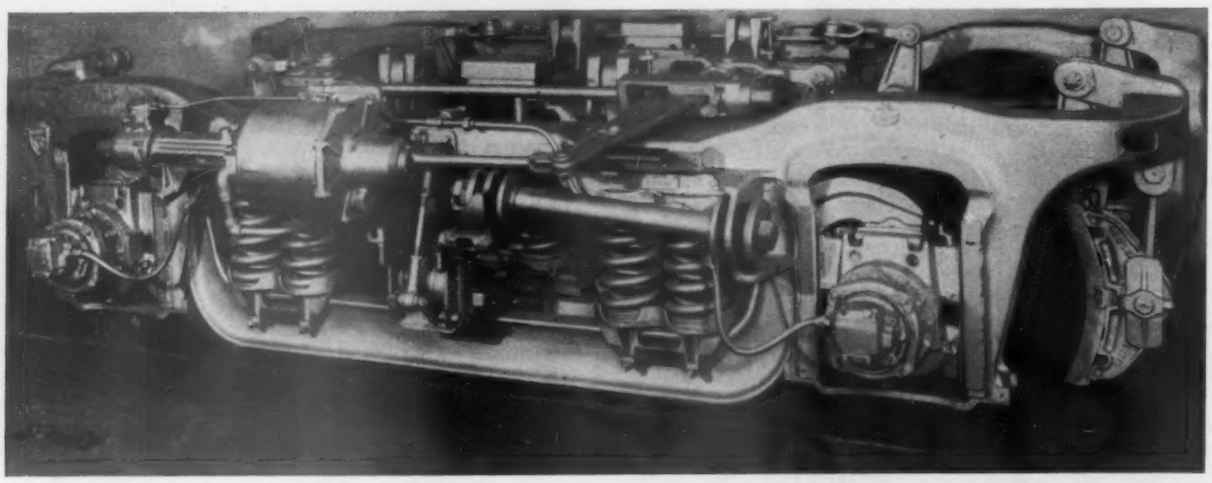
A vestibule end

Floors are of the Keystone type. The Keystone is zinc grip steel and is covered with Tucolith lightweight composition flooring.

The car bodies are insulated with Johns-Manville Stonefelt, 3 in. thick, applied to all interior surfaces of the car body. The inside finish is composed principally of aluminum sheets. These form the headlinings, wainscot, pier panels, and end linings. The flat ceilings, as well as all partitions, are of Haskelite aluminum-faced plywood.

Windows are Adams & Westlake aluminum breather type sash glazed with Pittsburgh Plate Glass Company's safety glass inside and clear plate glass outside. The end doors are of steel construction, stainless on the exterior. The upper section is closed with ¼-in. laminated glass. They are arranged for future application of National Pneumatic door operators. Electric locker doors are aluminum. All other interior doors are metal-covered plywood. The vestibule side doors are stainless steel, Dutch type, with the upper section glazed with ¼-in. laminated glass. The pivoted vestibule steps have four treads and operate in conjunction with the O.M. Edwards trap door.

Buffers on all cars, except the rear end of the observation-sleeper, are the built-up type with side-stem springs and center stems and are carried on the end



The all-coil-spring truck has a wheel base of 9 ft.

structure by adjustable suspension rods. The lower buffing mechanism is Miner B-18X. A Fowler improved upper buffer is also installed. Couplers are American Steel Foundry controlled slack Type E. Couplers and yokes are of high-tensile steel. The uncoupling device operates from both sides of the car. Draft gears are Miner A-4X-B.

All diaphragms are the Morton two-fold type with U folds. In conformity with Santa Fe practice, no contour closers are used between the cars.

Electrical Equipment

The electrical system is powered by a Safety 10-kw. 40-volt generator driven by a 5-in. flat belt from the car-axle pulley. Current is accumulated in a set of Exide, 1,294-amp.hr. batteries, housed in two battery boxes suspended from the underframe. Generator and lamp regulators also were supplied by the Safety Car Heating & Lighting Co. as were the relays and switchboards.

The cars have the Lundy electro-mechanical circulating drinking-water system. A faucet alcove and Dixie cup dispenser are located in the annex of each drawing room and compartment and the lavatory in bedrooms.

Luminator lighting fixtures include incandescent lights installed in the vestibules, passageways, and in the sleeping rooms for individual mirrors and berths, and fluorescent ceiling fixtures for the main lighting in each room and in the observation lounge of the observation-sleeping car. A white incandescent night light is installed as part of the main lamp. Power for the fluorescent lights is derived from a Safety 2,000-watt motor alternator operating on 32 volts d.c., with an output of 120 volts a.c.

The cars are wired for music, and the Capehart-Farnsworth radio and public-address system. Connections are made between cars by Pyle-National receptacles and jumpers.

Heating is provided by the Vapor thermostatically controlled zone system of unit copper fin radiation with loop equipment, supplemented by an overhead heating unit built into the air-conditioning system. The main train line is of 2½-in. extra-heavy steel pipe insulated with Johns-Manville asbestos sponge-felted pipe covering of 20-gage galvanized steel.

Air conditioning of the Carrier steam-ejector type was furnished by the Safety Car Heating & Lighting Co., including a six-ton refrigeration unit and pull-through type air-conditioning unit with Vapor control panel and thermostats.

Air is distributed to the various parts of the car by insulated stainless steel ducts. Anemostat air diffusers deliver air to the sleeping rooms and passageways. Two fresh-air intakes equipped with Farr filters, are located over the vestibule. The recirculated air is taken from inside the car through Uni-flo grills.

On all cars, except the drawing-room-compartment-bedroom cars, Westinghouse air brake equipment is installed, using the modified HSC control with a generator-type speed governor. On six of the drawing-room-compartment-bedroom cars the HSC system with electro-pneumatic straight-air control with AP decelostats is employed. The other nine have a modified HSC control the same as the other car types. Arrangements have been made for future application of electro-pneumatic straight-air control on all cars.

The air reservoirs are of lightweight steel and the brake pipe is hard copper tubing with sweated copper fittings. For connections to valves and reservoirs flanged fittings, with threaded connections to facilitate disconnecting, are used.

A hand brake of the Peacock type furnished by the National Brake Company is applied, with an inside wheel only at the vestibule end of the car. The conductor's valve and signal equipment were supplied by Westinghouse.

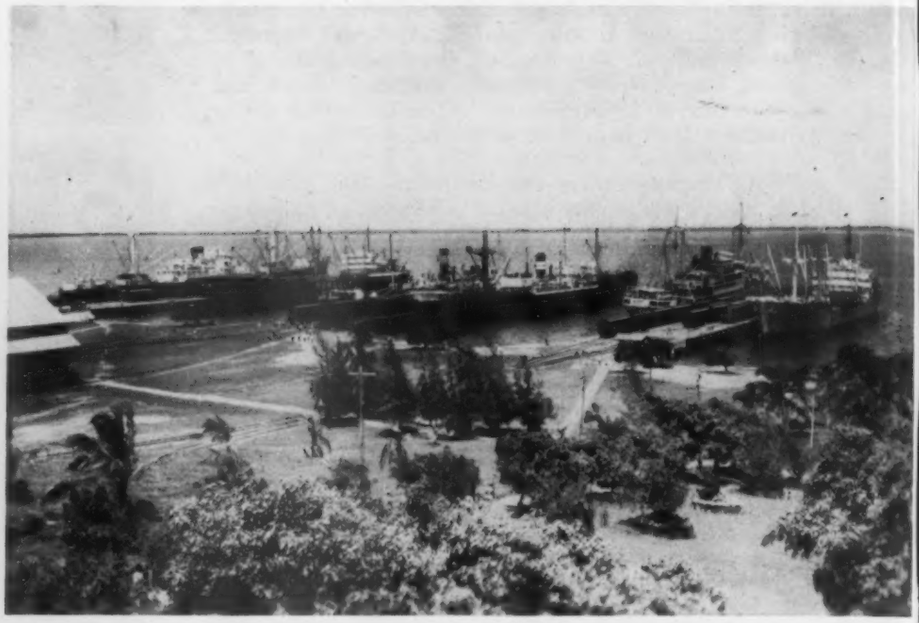
Trucks

The trucks are General Steel Castings Corporation four-wheel type of 9 ft. wheel base, with I beam equalizers. They are equipped with bolster anchors, inverted center plates, Miner locking center pins, bolster-roll stabilizers, Houde vertical and lateral shock absorbers, brake-beam stabilizers, and Santa Fe standard side bearings.

The frames and bolsters are of cast nickel steel. Applications are made of Gatke center-plate side segments and U. S. rubber inserts under the center plates and at the bolster end bumpers. Fabreeka is applied under the body side bearings.

Wheels, 36½-in. in diameter with A.A.R. cylindrical treads, are mounted on 6-in. by 11-in. straight-center axles machined all over and ground on journal surfaces. Timken roller bearings and boxes are fitted on all axles. Four journal boxes are arranged for Westinghouse decelostats and one for speed governor control. All are equipped with hot-box odor alarms.

Double coil springs are silicon-manganese steel. Two brake cylinders on each truck operate the Simplex unit cylinder clasp brake, delivering a total braking power of 250 per cent of the light weight of the car at 100 lb. cylinder pressure.



Above—Tarafa, Cuba's most important sugar exporting port, has a storing capacity of over 2,000,000 bags of that commodity. Left—A portion of the Consolidated's yard in Camaguey. Facing page—Consolidated's enginehouse in Camaguey

Merger of Principal Cuban Railroads Urged by International Bank

Rehabilitation and merger, under private management, of the Consolidated of Cuba and the United of Havana, which together constitute substantially the entire public service railroad system of Cuba, were urgently recommended in a recent report of a technical survey mission sponsored by the International Bank for Reconstruction and Development. Francis Adams Truslow, president of the New York Curb Exchange, was chief of the mission, which was sent, at the request of the Cuban government, to make a comprehensive survey of the island's economy to determine its full potentialities and to make specific proposals for future development. Because of the urgency of Cuba's railroad situation, an advance report on railroads (on which this article is based), was submitted to the bank for transmittal to the president of Cuba before completion of the entire report. The importance of prompt action on the railroad problem was emphasized in the mission's report because, it said: "There is a real possibility that the 1951 sugar crop may not be adequately handled and a probability that transport service required for the 1952 crop may not be available."

Railroads of Cuba, the report explains, may be divided into two classes: (1) Numerous private lines, with total trackage of about 12,645 kilometers, created and operated primarily to convey sugar cane from fields to grinding mills, and (2) the public service railroads, with total trackage of 4,825 kilometers, all but 791 kilometers of which are owned by Consolidated and United. Through three operating subsidiaries—the Cuba, the Cuba Northern and the Guantanamo & Western—Consolidated controls the public service railroad system east of Santa Clara (see map), comprising about 1,900 kilometers of trackage. United owns, directly and through several subsidiaries, approximately 2,200 kilometers of trackage west of Santa Clara. This system has been under operating control and direction of an interventor of the Cuban government since June 10, 1949. Virtually all trackage of both carriers is standard gage.

The private railroads are to some extent available for non-sugar transportation, although they are essentially adjuncts of the sugar properties and not public service lines.

Relationship to Sugar

The public service railroads also are extremely closely related to the sugar industry. The tonnage of sugar cane moved each year by the major public service railroads is equal to 25 per cent of all cane ground on the island for sugar and molasses. The principal public service railroads also hauled over 4,100,000 metric tons of raw sugar during the fiscal year 1948, compared with

an aggregate export of raw sugar of 5,900,000 metric tons.

Historically and geographically, the development of Cuba's public service railroad operations is closely allied with the island's sugar industry. In the case of United, the small railroads which eventually became part of the present network had as their principal objective the traffic potential of the various sugar districts in the movement of products of the industry to the ports, such as Havana, Matanzas and Cardenas. Similarly, Consolidated, made up of operating carriers of more recent origin, is laid out principally for conveying sugar industry products to the major ports it serves, among the most important of which are Nuevitas and Antilla on the north coast and Santiago de Cuba, Santa Cruz del Sur and Casilda on the south coast. The tonnage of cane hauled on these railroads averaged, over the last 20 years, approximately 25 per cent of all sugar cane ground in Cuba. This relationship prevailed substantially unchanged through years of prosperity and depression, peace and war.

Additional Traffic Statistics

The traffic in sugar cane is not the only phase of the sugar industry in which these railroads occupy an important role. This fact is especially striking when traffic statistics are expressed in terms of ton-kilometers. During the fiscal year ended June 30, 1949, on the two principal operating railroads of the Consolidated network—the Cuba and the Cuba Northern—sugar cane constituted only about one-tenth the ton-kilometers of revenue freight, but raw sugar and other sugar products, making up only slightly more than one-fourth of the tonnage carried, accounted for over a third of the ton-kilometers. In the case of these products, generally carried to ports for export, the average distance hauled was about 88 kilometers. Of the combined 1948-49 traffic of these two railroads, over 80 per cent of the aggregate tonnage of revenue freight came from that industry. Of the total ton-kilometers of revenue freight, about 45 per cent was accounted for by sugar cane, raw sugar and products of the sugar industry.

Revenue freight carried by the Cuba and the C.N. during the fiscal year 1948-49 totaled 1,647,000 metric tons. Although this tonnage represented less than one-fifth the total tons of revenue freight, the classes of traffic included accounted for nearly 55 per cent of the ton-kilometers produced by the railroads during the year. The significance of this lies in the fact that the freight carried, apart from that of the sugar industry, moved on the railroads an average of 195 kilometers.

Despite the relatively low revenue per ton received by the railroads for carrying cane and cane products, somewhat over one-half the aggregate freight revenue of Consolidated and United is derived from that class of freight. Manufactured products account for the next largest portion of freight revenue, amounting, in the fiscal year ended June 30, 1948 (the latest year for which complete tonnage and revenue figures are available), to $5,521,000, equal to 18 per cent of total freight revenue. Table 1 gives complete statistics on freight tonnage and revenues of the two roads for that fiscal year.

The recent war diminished Cuba's supplies of gasoline, motor vehicles and tires and increased concentration on Havana as the main port, because of limited naval convoy. It is not safe, the report emphasized, to assume that the impact of another war would be different. Curtailment of highway transport and concentration of traffic on Havana increased the dependence of Cuba on rail

Table I

Class of freight	Freight revenue (1,000's)	Metric tons	Percentage of total Freight revenue	Percentage of total Metric tons	Revenue per ton
Cane and cane products	$16,151	18,513	53.5	80.6	$0.87
Agricultural products	1,683	604	5.6	2.6	2.78
Animals and products	1,115	251	3.7	1.1	4.45
Forest products	1,806	803	6.0	3.5	2.24
Mineral products	1,651	761	5.5	3.3	2.17
Manufactured products	5,521	1,501	18.3	6.6	3.67
Miscellaneous and l.c.l.	2,257	534	7.4	2.3	4.22
Totals	$30,184	22,967	100.0	100.0	$1.31

transportation. Some of the sharp increase in passenger and freight traffic during the war period must be attributed to an increase in the average sugar crop, but available figures indicate that factor was too small to be the determining factor.

Status of Track and Equipment

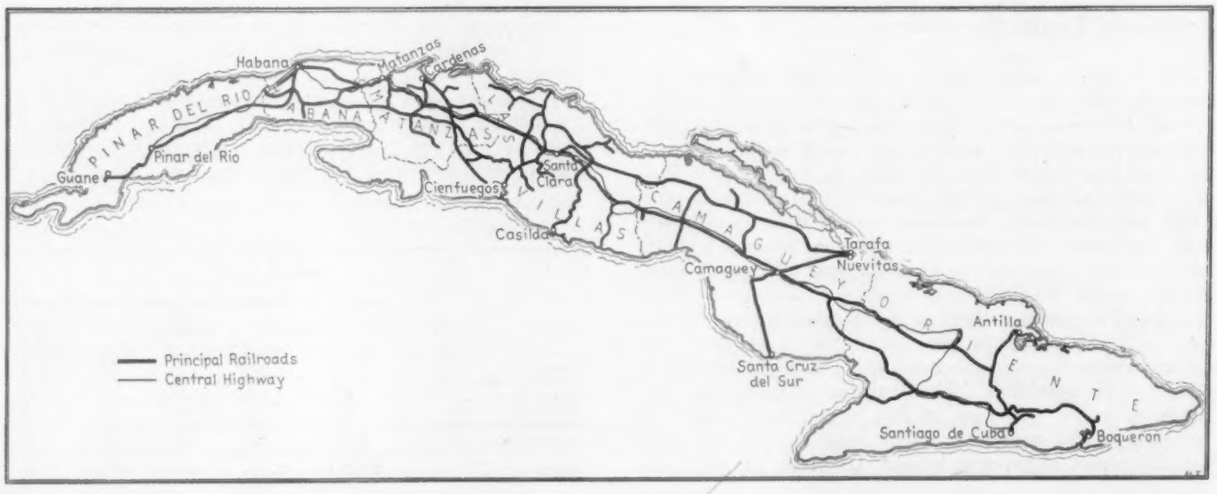
During the past 10 years Consolidated and United have spent $112,258,455 for maintenance and improvement of tracks and equipment. These expenditures have not permitted achievement of modern, or even relatively modern equipment and, in the case of United, have not served to keep its tracks abreast of adequate maintenance schedules. Both systems suffer from the high costs and inefficiency of over-age steam locomotives, antiquated passenger cars and insufficient and obsolete freight equipment, the report states. In addition, as indicated, United's trackage suffers materially from deferred maintenance, and very large expenditures (estimated between $5,000,000 and $10,000,000, depending upon extent of work done), must be made to bring its tracks up to serviceable condition, in addition to current and continuing maintenance. This condition is serious and immediate and may not be too long postponed if service is to continue, it is pointed out. Consolidated's locomotives are said to be maintained in good condition, considering their age. United has 79 locomotives 40 years old or more. Consolidated has no locomotive over 40 years old. Because of the greater age, much less modern shops and lack of supplies and "currently less effective management," United's maintenance is described as much inferior to that of Consolidated.

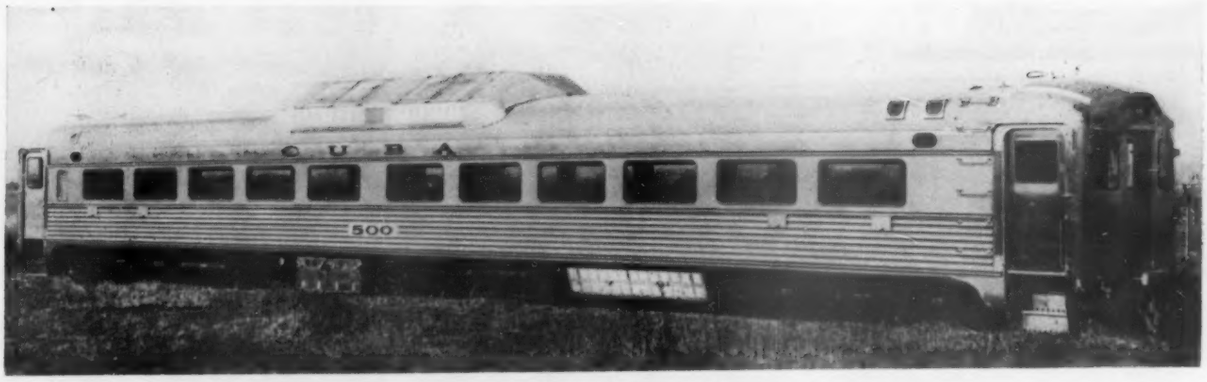
Excluding a relatively few units purchased in the past few years, the rolling stock of both systems would not pass inspection on interchange on United States railroads, according to the report. It would be wholly unwarranted to scrap all equipment, but both systems, it says, must be placed in a position to begin immediately a program of replacing steam power with diesel-electric locomotives and the cars with new or good second-hand units. Consolidated's principal locomotive and car repair shops, at Camaguey, are of permanent construction and in good condition. The principal United shops are in Havana. Occupying potentially valuable real estate, their operation, says the report, is made additionally difficult by their presence in a turbulent labor area, encroachment on their sites for highway development and lack of adequate supplies or tools. Improvement of United's shop facilities and their eventual transfer, under a program of railroad consolidation, to a more centralized point, is listed as of pressing importance.

According to the mission's investigators, both systems are overcapitalized in relation to present reasonably foreseeable earning power or real estate value. Funded debt of the Consolidated system amounts to about $22,000,000. It might in time be retired, but some compromise and settlement of interest obligations to lower carrying charges should be effected, they assert. The preferred stock burden (approximately $40,000,000, of which $30,000,000 carries 6 per cent cumulative dividends in arrears for almost 20 years), is "unrealistic." The United situation, subject to receivership in England and interventorship in Cuba, is reported even more hopeless in terms of present capitalization. Total capital and deferred interest totaled on May 8, 1950, about £36,432,000, of which over £14,000,000 represented interest arrears. Both railroads have been adversely affected, says the report, by performing services for various branches of the Cuban government for which payment was not made. Private financing to permit United to recover control of its railroad and begin a program of rehabilitation is not considered likely.

The report clearly recognizes that one of the most serious problems faced by the public service railroads is the growing competition of motor trucks and buses. This competition has been most adverse to United's operations. While the central highway traverses practically the entire length of Cuba (see map), providing an artery for motor vehicle traffic throughout the territory, the principal development of other major highways has centered in the area west of Santa Clara and more especially in the provinces of Havana and Matanzas. Thus, the seriousness of highway competition to the railroads relates principally to the traffic and revenue of United. It has been estimated that by 1948 as much as 21 per cent, about 9,500,000 metric tons, of the total internal freight traffic was carried in highway trucks. This highway freight was about 78 per cent more than the freight traffic of all the country's public service railroads, excluding cane and its products.

In Cuba, as in other countries where truck transport is important, motor truck carriers have been selective in the types of freight for which they compete, the report indicates. "Specifically," it says, "the truckers generally leave to the railroads the bulky, heavy and low revenue





One of twelve of the Budd Company's rail diesel cars ordered by the Consolidated. The first two went into main-line service on January 30. Some will replace old equipment and a few will provide new service

types of freight and seek to compete most actively for the 'cream of the traffic' producing the highest revenues per ton. This practice is of paramount significance because of the virtually unregulated development of highway carriers in Cuba."

It is estimated that nearly 64 per cent of all intercity passengers travel by bus, compared with 34 per cent by train. Notwithstanding the heavy inroads of bus competition, passenger operations of the public service railroads are still of vital importance to the Cuban economy. In large areas of the nation, either because of complete absence of roads or the inability of buses to operate on existing roads during the rainy season, the movement of passengers is possible only by train. In addition, because of the need to transport large numbers of migratory workers for the sugar industry and other enterprises, the economy of Cuba depends upon the capacity of public service railroads to provide reliable and economic passenger service. Substitution of bus-truck transport for rail transport of cane and cane products alone would require tremendous expenditures for new highways and equipment, the survey showed. "Factors of time and organization, apart from such costs and other considerations," the report says on this subject, "would in themselves introduce impossible barriers to the idea of total substitution."

Both railroad systems have been faced with increasingly heavy labor costs. In 1940 Consolidated's payroll was $2,990,051 and in 1948 $12,624,258. Of the latter figure, $3,449,506 was attributable to an increase in the number of employees, and $6,184,700 to wage increases. The report observes that the labor cost problem could probably be overcome without reducing the level of wages if management were able to employ only such labor it needs, of the type it needs and in the places it is needed and could also discharge unsatisfactory employees and retire those who are over-age. What are termed artificial restrictions on sea ferry and sea train operations and on bulk handling of sugar and other freight have seriously affected traffic which might otherwise flow through Cuba's ports. Port labor, representing only a small portion of all Cuban employees, has consistently opposed mechanical methods for reducing the costs of freight transfer at ports, according to the report, and has obtained almost "incredibly high wage rates and has imposed various forms of featherbedding as offsets to such bulk handling and transfer as have been introduced."

It is recommended that a thorough survey be made of actual and potential traffic, including a review of various proposals for adjusting passenger and freight rates, particularly rates applicable to sugar and related products. Government subsidies, the report says, will not solve the railroad problem, but would only tend to hide it, encourage inefficient operation and pass on the cost of inefficiency as a charge against whatever other enterprises in Cuba are profitable and therefore taxable. Nationalization "is not likely to provide a solution to the basic problems, and on the contrary is likely to encourage less efficient management and a consequent and continuing heavy drain on the productive life of Cuba."

Other Recommendations

In addition to the recommendation that United and Consolidated be combined into a new company and operated, under private management, as a single system, the report concludes with these specific recommendations: That the individual sugar companies acquire a substantial minority interest and participation in control of the new company by purchase from it for cash of the necessary shares; and that the Cuban government give full support to reorganization and provide reasonable assurances about payment of existing obligations, payment for new services, conditions of employment, conditions of competition with other forms of transport and other matters necessary to permit the new company to carry out a program of rehabilitation and to operate on a self-sustaining basis.

Each railroad, it is suggested, should appoint a representative to a reorganization committee. These individuals should select a third to represent those sugar mill owners interested in developing and participating in the proposed reorganization. The committee should promptly obtain an engineering survey of present installations and equipment needs and a survey of existing and potential traffic. An independent firm of financial advisers should prepare a detailed consolidation plan providing an appropriate capital structure. Provided sugar mill owners participate substantially and the government gives appropriate assurances, the reorganized company, the report says, should be able to raise sufficient capital, either at home or abroad, to make reorganization a success. The International Bank, it is suggested, should be consulted by the reorganization committee soon after its formation "because it may appear necessary or desirable . . . to seek a loan from the bank to assist in the rehabilitation program, [and] also because the bank may be in a position to give the committee impartial advice in connection with its work."

Communication . . .

Is the Railroad Inspector Necessary?

PITTSBURGH 19, PA.

TO THE EDITOR:

This will refer to your editorial on page 45 of the September 9, 1950, issue of *Railway Age*, which has recently been called to my attention. I am quite sure that the author of the statement contained in the editorial is not taking into consideration *why* railroads send their own men into car-building shops to inspect, or employ expert inspection services which are offered by inspection bureaus who have had a lifetime experience inspecting this commodity.

The writer has inspected or has directed the inspection of well over a half million railroad freight cars built in every car-building plant, and in some railroad shops in this country and in Canada during the past 45 years. There is very little difference in the manufacturing procedure or quality of workmanship turned out by any of them.

Most of the men are paid by piecework and, where piecework systems are a part of the manufacturing procedure, complete and thorough inspection is highly necessary, and it should be done by someone entirely divorced from production controls of the manufacturing plant. The 100 per cent inspection procedure in the automobile and truck-building industry is without doubt one reason for its success, and it is one reason why the industry can "warranty" their product.

Experience has proved, without fear of contradiction, that this complete inspection is necessary. Whether it is provided by the manufacturer (independent of production controls) or by the buyer is of little importance, assuming that it is an experienced inspection, conducted by competent men.

Leaving aside for the moment the necessity for testing and inspecting the component parts that are built into a car, such as wheels, axles, bearings, springs, castings, structural steel and other commodities which may not be given 100 per cent inspection and testing by their producers, it takes a crew of four or five men per trick to inspect freight cars properly during their process of assembly and progress through the car-building shop.

Wheel seats on axles and wheel bores must be properly prepared within certain tolerances, or there will be an improper fit between the axle and the wheel, resulting sometimes in the car throwing its wheel when it gets hot on a downgrade. Recording pressure gages have been found to be "fixed." The manufacturer's "guarantee" might replace this wheel and axle, but who would reimburse the railroad for the damage caused by a wreck which might happen if the car throws its wheel?

Improperly burnished axle journals, or poor fit of bearings, or inferior waste may result in a hot box, and frequently do. The manufacturer's "guarantee" might provide new axles and new bearings, but who reimburses the railroad for the cost of cutting these hot-box cars out of a train, with its attendant penalties?

Too much side-bearing clearance may cause excessive rocking, with its attendant dangers on straight track, and frequently does, and too little side-bearing clearance may cause derailments on curves, and frequently does. A manufacturer's "guarantee" might remedy the condition of the car, but who would reimburse the railroad company for the loss that it might incur due to sideswiping or derailments?

A modern box car has approximately 9,000 lb. of lumber built into it. Most lumber has 20 per cent moisture in it when it is delivered to the car-building plant. Frequently lumber containing this percentage of moisture is built into the car, and the car is light-weighed in this condition, so the box car contains 1,800 lb. of water in its light weight.

During its early service days a large percentage of this moisture dries out, let's say down to 10 per cent, which is a very conservative figure, but every time this car is loaded and weighed there will be one half of this 1,800 lb., or 900 lb. of lading, which the railroad would be carrying free. To what extent would the manufacturer's "guarantee" reimburse the railroad for this loss of revenue?

Shrinking out of floor boards and lining and improper fit of grain strips result in openings through which lading can filter, with resultant loss and possible damage suits against the railroad. Would the manufacturer's "guarantee" protect the railroad here? Hardly.

In riveted construction the best engineering practice calls for the parts in contact to be coated with paint. It makes messy handling for the workmen and they frequently avoid it unless they are watched. Its omission means early corrosion at such places, consequently early depreciation. How would a manufacturer's "guarantee" function here?

A coat of paint can cover a multitude of sins, and frequently does, unless the steel is thoroughly cleaned before the paint is applied. This means early deterioration of the paint coat with resultant corrosion and high depreciation costs. Car builders will repaint a car if it is caught before it leaves their plant, but I have never heard of a case where they repainted a car after it was delivered to the railroad.

Inspection of brake equipment is highly important, and it is always done, but how often are the brake shoes taken off and the brake travel measured, unless there is an inspector on the job who knows his business? Perhaps after a time there are "no brakes" on this car. Does the manufacturer's "guarantee" take care of a situation like this? Hold on to your hat!

Brake steps, handholds, ladders and other safety devices are covered by strict rules. They are supposed to be thoroughly checked, and they are where there is an independent inspector on the job. Where they are found to be faulty, who defends the railroad from the penalties involved, or who defends the railroad from damage suits when men are injured? Does the manufacturer's "guarantee" function here? I think not.

There are many other features of car assembly and car building which should be carefully watched. I have mentioned only a few of them, and *this is not an indictment of car builders.* It is a criticism of a system. The automotive industry early recognized it and took steps to correct it.

If the freight-car builders want to sell freight cars on a manufacturers' "guarantee," they should institute a 100 per cent inspection service in their own plants (where their inspection service at present is sketchy, to say the least), reporting direct to the top management and entirely divorced from foreman control. They will also have to convince the car buyer that this is so; otherwise, the car buyer will feel it necessary to send his own men into the plant or to employ the expert services of others who make a specialty of this field.

A. R. ELLIS,

Chairman of the Board, Pittsburgh Testing Laboratory

GENERAL NEWS

Retroactive Mail Pay Put Last Year's Net Operating Income Above $1 Billion

I.C.C. bureau's "Monthly Comment" notes that reported figure of $1,040 million was largest since 1944; other articles on 1950 accident and efficiency records, effect of average load on car supply, and growth of trucking on main rural highways

Inclusion in 1950 accounts of retroactive mail pay applicable to a period of nearly four years brought last year's net railway operating income of Class I line-haul railroads above $1 billion. This was pointed up by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission in the latest issue of its "Monthly Comment," which also included articles on 1950 accident and operating-efficiency records, effect of average load on car supply, and growth of trucking on main rural highways.

The 1950 net railway operating income was $1,040 million, but retroactive mail pay in last year's gross totaled $148.7 million, of which only $41.7 million was applicable to 1950. The remaining $107 million was applicable to the period from February 19, 1947, to December 30, 1949.

The 1949 net railway operating income was $687 million. The bureau calculated that the 1950 figure would have been $978 million, if retroactive mail pay applicable to the period prior to the last year were eliminated. At the same time, it noted that the reported 1950 net of $1,040 million was "the largest reported for any year since 1944 and exceeded that of 1949 by 51.4 per cent."

Conversion to Net

Meanwhile, the 1950 net income after all charges—$786 million—was "higher than in any year back to 1943." The range of net incomes for the 10-yr. period, 1941-50, was from 1942's $902 million to 1946's $287 million.

The bureau's further analysis of 1950 results included presentations and discussions of data showing percentages of revenues converted into net railway operating income. Among such data were those embodied in the accompanying table, reproduced from the "Comment." For 37 large railroads (those with 1950 gross above $50 million), the table shows percentages of 1950 revenues converted into net railway operating income, together with each road's percentage contribution to the revenues and net railway operating income of its territory.

The Bureau's review of the 1950 accident record noted that last year's total fatalities in railroad accidents of all kinds were "the second lowest of record." The best year on record was 1949, when fatalities totaled 3,307. The 1950 total was 3,403. Meanwhile, however, the bureau also noted that 149 passengers were killed in 1950 train accidents, as compared with only six passenger fatalities in 1949. Fatalities to employees on duty dropped from 403 in 1949 to 360 in 1950, the latter being "the lowest level in the period of record, 1888-1950."

Efficiency indicators discussed in another article were selected freight train service operating averages, based on data for the first 10 months of 1950, 1949, 1944, 1939, and 1929. As the bureau put it, the "significant averages reflecting freight train performances," such as cars per train, net tons and gross tons per train, gross ton-miles per train hour, and the per cent loaded of total freight car miles, "were all higher in the 1950 period" than in any of the other years shown, including the peak war year, 1944.

Meanwhile, the bureau noted that the condition of freight service equipment in the 1950 period was less favorable than in any of the other years shown except 1939. The unserviceable percentage last year was 6.4, as compared with 1949's 5.8 per cent and 1944's 2.5. The 1939 percentage was 11.7, while that of 1929 was 6.1.

To estimate the effect of the average load on car supply the bureau used data from one of its waybill studies which was issued recently—Statement No. 512, Quarterly Comparisons of Traffic and Revenue by Commodity Classes, Terminations in Second Quarter 1950, 1949, 1948 and 1947. The data showed that the load per car in

Road	Total operating revenues (Thousands)	Net railway operating income (Thousands)	Percent net railway operating income of revenues	Percent revenues of total revenues in territory	Percent of total net railway operating income in territory
Eastern district and Pocahontas region					
Pennsylvania	$930,141	$57,873	6.2	22.2	14.8
New York Central	759,685	37,475	4.9	18.2	9.6
Baltimore & Ohio	402,542	34,142	8.5	9.6	8.7
Chesapeake & Ohio	318,677	45,879	14.4	7.6	11.7
Norfolk & Western	167,996	29,059	17.3	4.0	7.4
Erie	166,190	19,473	11.7	4.0	5.0
N. Y., N. H. & H.	150,765	10,903	7.2	3.6	2.8
N. Y., C. & St. L.	146,924	25,190	17.1	3.5	6.5
Reading	118,952	12,992	10.9	2.8	3.3
Wabash	104,358	11,396	10.9	2.5	2.9
Boston & Maine	86,581	6,954	8.0	2.1	1.8
Del., Lack. & Western	82,344	9,048	11.0	2.0	2.3
Lehigh Valley	71,236	8,401	11.8	1.7	2.2
Grand Trunk Western	57,339	8,352	14.6	1.4	2.1
Delaware & Hudson	54,835	7,198	13.1	1.3	1.9
Total (15 roads)	3,618,565	324,335	9.0	86.5	83.0
Southern region					
Illinois Central	275,968	37,669	13.6	21.0	22.3
Southern	239,906	31,933	13.3	18.2	18.9
Louisville & Nashville	203,017	26,031	12.8	15.4	15.4
Seaboard Air Line	135,537	17,361	12.8	10.3	10.3
Atlantic Coast Line	133,658	9,817	7.3	10.2	5.8
Gulf, Mobile & Ohio	78,428	9,311	11.9	5.9	5.5
Total (6 roads)	1,066,514	132,122	12.4	81.0	78.3
Western district					
A. T. & S. F. and affiliated companies	522,676	81,213	15.5	13.2	16.9
Southern Pacific Co.	470,230	47,537	10.1	11.8	9.9
Union Pacific	465,283	44,129	9.5	11.7	9.2
C., M., St. P. & P.	255,422	21,940	8.6	6.4	4.6
Chic., B. & Q.	245,248	37,807	15.4	6.2	7.9
Great Northern	227,516	27,433	12.1	5.7	5.7
Missouri Pacific	220,366	31,659	14.4	5.5	6.6
Chicago & North Western	188,901	9,133	4.8	4.8	1.9
Chic., R. I. & Pacific	179,652	19,934	11.0	4.5	4.1
Northern Pacific	167,228	22,690	13.6	4.2	4.7
Texas & New Orleans	128,033	12,977	10.1	3.2	2.7
St. L.–S. F.	114,471	15,565	13.6	2.9	3.2
M-K-T Lines	77,582	9,097	11.7	2.0	1.9
Texas & Pacific	70,731	9,645	13.6	1.8	2.0
Denver & R. G. W.	66,123	9,945	15.0	1.7	2.1
St. L. S. W. Lines	62,526	11,149	17.8	1.6	2.3
Total (16 roads)	3,461,988	411,853	11.9	87.2	85.7

the Products of Mines group increased throughout the period covered. The bureau's comment on the whole showing was summarized in this statement:

"Excluding the Products of Mines group, these computations indicate that the tonnage terminating in the second quarter of 1950 required approximately 133,000 more carloads than if the cars had been loaded to the same average weight as they were in 1947. An assumption of approximately six trips per car for the quarter (turn-around time of 15 days) indicates that loading to the level prevailing in 1947 would be equivalent to an increase of about 22,000 cars to the freight car supply."

The article on the growth of trucking on main rural highways was a summarization of a recent survey by the Bureau of Public Roads. The survey "disclosed the great increase in private, and still greater increase in for-hire highway trucking on main rural roads between 1936 and 1949," the I.C.C. bureau said. The figures showed that, in the 13-year period, ton-miles of for-hire trucks and combinations increased 285.1 per cent (from 11.9 billion to 45.9 billion), while the increase in ton-miles of private trucks and combinations was 168.6 per cent (16.1 billion to 43.2 billion).

"Also noteworthy," as the I.C.C. bureau put it, "is the trend to increased use of combinations. In 1936, 30.5 per cent of the private and 74.2 per cent of the for-hire ton-miles were produced by operations in combinations, while the respective percentages in 1949 were 51 and 90.3."

Another trend pointed up by the figures was the increasing use of large trucks and combinations. Thirty-six out of every 1,000 empty and loaded trucks and truck combinations in 1949 weighed over 50,000 lb., which was 12 times the number recorded for the prewar period 1936-37. In the case of trucks and combinations weighing over 30,000 lb., the number per 1,000 more than tripled (rising from 43 to 148); and in the 40,000-50,000 lb. class, the 1949 count was almost six times that of the prewar period—46 as compared with 8. As for combination vehicles involved in the 1949 count, more than half (520 out of every 1,000) weighed over 30,000 lb.

Railroads Present Their Case For Immediate Rate Increase

Seek I.C.C. approval for interim relief pending final outcome in Ex Parte 175

Railroad presentations in the new general freight rate case, Ex Parte No. 175, were submitted to the Interstate Commerce Commission last week. At hearings which began February 19 in Washington, D.C., before the commission's Division 2, the railroads were asking for a 6 per cent interim increase in rates, to be effective immediately, because present earnings are "too thin and too little."

E. H. Burgess, chief counsel for the roads, said evidence presented by the carriers was in support of both the motion and the pending petition for a permanent 6 per cent increase. The railroad witnesses, who were on the stand for two full days, generally told a story of pyramiding expenses and wages that have left the roads "no economic alternative" but to seek relief through increased rates.

Commissioner Aitchison, chairman of Division 2, presided at the hearings. With him on the bench were Commissioners Splawn, Alldredge and Mahaffie, as well as three state commissioners, Kenneth Potter of California, Leonard E. Lindquist of Minnesota, and Joshua S. James of North Carolina.

Dr. J. H. Parmelee, vice-president of the Association of American Railroads and director of the Bureau of Railway Economics, laid the foundation for the railroad case as the hearings opened. He appeared as first witness and discussed the overall railroad situation, showing that costs and wages are now about $421,835,000 a year more than they were when the present rate level was approved.

Other witnesses taking the stand on behalf of the carriers were several railroad presidents, including William White of the Delaware, Lackawanna & Western; Gustav Metzman, New York Central; Walter S. Franklin, Pennsylvania; Champion McD. Davis, Atlantic Coast Line; and John P. Kiley, Chicago, Milwaukee, St. Paul & Pacific.

Mr. Burgess began the railroad presentations by reading a brief statement in which he said that even in 1950, a year of peak prosperity, the carriers earned less than 4 per cent on their investment. He referred to the "rapidly narrowing margin" between railroad revenues and expenses, and said it is this "urgency" which prompted the roads to seek immediate relief in the form of an interim increase. The roads have said they are losing over $8,100,000 by each week's delay in effecting rate increases.

Parmelee's Testimony

Dr. Parmelee's testimony included comparisons between 1950 results and anticipated traffic and revenue for 1951, based on estimates from 31 representative roads. He said revenue ton-miles will increase about 4.6 per cent over 1950, with the 1951 total estimated at 620.2 billion.

If the railroads handle this business at present rates they will show a return of 3.36 per cent for 1951, compared to 3.95 per cent in 1950. Placing the proposed 6 per cent increase in effect would give the roads a 4.17 per cent return in 1951, Dr. Parmelee said.

Rising costs in materials and wages, largely incurred in the latter part of 1950, will be spread over all of 1951, Dr. Parmelee said, and these additional demands on railroad treasuries create an emergency that can be met only through increased revenues. In addition, roads are planning capital improvements for the first quarter of 1951 that will total $305,000,000, a 43.6 per cent increase over the same period last year. These improvement programs are necessary in the national emergency, but adequate earnings are requisite to their success, he said.

"The railroads have made marked progress during the postwar period in the efficiency and economy of their operations," Dr. Parmelee continued, "but the resulting savings in operating expenses have been insufficient to

NORTHERN PACIFIC 4-8-4 No. 2626, originally built for the Timken Roller Bearing Company in 1930 to demonstrate the feasibility of roller bearings on steam locomotives, has accumulated over 1½ million miles with all original bearings still in service except for those on the left front trailer truck, on the right rear trailer truck, and on the left No. 5 tender truck

THE HUDSON & MANHATTAN recently placed in daily service between Hudson Teminal, N. Y., and Hoboken, N. J., this "engineering pilot model" car which, William Reid, president, said, may be a forerunner of the road's car of the future. The car, in H. & M. service over 20 years, was stripped to its steel skeleton by the American Car & Foundry Co. and rebuilt almost entirely. Mr. Reid said the H. & M. hopes it will be financially able to modernize other cars on the basis of operating experience with the pilot model

bridge the wide gap between increases of more than 100 per cent in unit costs and of less than 50 per cent in unit revenues."

During cross-examination, C. E. Childe, representing the Under Secretary of Commerce for Transportation who is opposing the rate increase, questioned Dr. Parmelee on his estimate of 620.2 billion ton-miles for 1951. Mr. Childe said the Defense Transport Administration, in requesting steel for the freight car program, had placed the 1951 estimate somewhat higher, at 687 billion ton-miles. Dr. Parmelee said he understood the D.T.A. figure was based on estimates from the National Security Resources Board.

Improvements Needed

Mr. White of the D.L.&W. told the commission that one of the compelling reasons his road needs the rate increase "is that it may finance a capital improvement program, which for the next five years requires expenditures of between $55,000,000 and $60,000,000." These improvements involve no luxuries whatever, he said, but include diesel-electric locomotives, freight cars, modernized car shops and added diesel shop facilities, installation of train and terminal radio communications and installaton of new signals.

Urging that the rate increase be granted "with an absolute minimum of delay," Mr. White said railroads must be permitted to earn an adequate profit during periods of good volume if properties are to be properly maintained, debt reduced, and reserves built up to carry through the lean years. He said the rate of return on the Lackawanna in 1950 was 3.33 per cent, including the retroactive mail pay, and he indicated that the D.L.&W. expects an increase of about 5 per cent in ton-miles in 1951.

Colonel Metzman appeared for cross-examination following Mr. White. In his statement the N.Y.C. president said the time lag between increases in operating costs and rate adjustments to meet such costs is a serious handicap to railroads. He said the N.Y.C. has already experienced increases in wages and material costs and is committed to further wage increases that make a freight rate increase imperative at this time. He said his road had a rate of return of 2.08 per cent in 1950, and prospects are for an even smaller figure in 1951.

Discussing wage awards that carry so-called "escalator" clauses and provisions for automatic increases, the colonel said that if such arrangements are to work fairly for the railroads their rates must be adjusted promptly.

The presentation by Mr. Franklin, P.R.R. president, continued the discussion of wage agreements with escalator clauses. He said that if all employees on his road were covered by such agreements it would cost the P.R.R. $3,300,000 annually for each point the cost-of-living index goes up.

Commissioner Aitchison interrupted at this point to suggest that perhaps the commission should provide the roads with an "automatic escape" which would enable them to meet such increases. He asked Mr. Franklin if such a loophole for the carriers would also permit them to lower rates, should the index go down. Mr. Franklin replied that since the railroads are not now earning what they consider an adequate return, such a decline should be applied toward improving that return rather than lowering freight charges.

"The railroads should not be expected to absorb any further increases in costs," Mr. Franklin said in continuing his statement. He said each day without increased rates "imposes a serious financial drain" on the railroads. He added that while the proposed increase will not provide a fair return, it will help meet recent increases in costs. He emphasized that the increases requested do not cover additional wage demands still pending, and said that if new wage increases are granted the carriers may have to seek further "adjustments" in their rates.

Mr. Franklin said the P.R.R.'s rate of return in 1951 would be only 3.23 per cent, even if the 6 per cent increase were applied throughout the year. This would be "far short" of what the road should be earning in order to continue proper development of the property and allow a return sufficient to attract future capital. Meanwhile, he said the road has a program for spending $150,000,000 in 1951 on improvements of all sorts, and declared that "this money should come from earnings."

Inadequate Return

The A.C.L. president, Mr. Davis, was the next railroad witness to take the stand. He told the commission that carriers should not be forced to absorb higher costs to the point of "gasping for breath," but should be allowed to increase charges as costs increase.

As did previous witnesses, Mr. Davis declared that the 1950 rate of return for his road was "inadequate." It was 2.8 per cent. He said with present rates the return in 1951 would be only 2.1 per cent, and even with the increase would be only 2.8 per cent.

Commenting on the possibility of greater diversion to trucks as a result of further rate increases by the railroads, Mr. Davis said the Coast Line "does not share that fear." He said he did not think the roads would lose a sufficient volume of traffic to deprive them of any appreciable portion of revenue benefit to be derived from the increased rates.

Mr. Kiley, who said his road's problems are representative of the midwest generally, told Division 2 that high income taxes are siphoning off railroad income, and that it is important that freight rates be maintained at a level which will permit the industry to meet both normal and emergency transportation requirements. He said the Milwaukee Road's budget in 1951 calls for capital ex-

penditures of $25,440,000, and that such expenditures are essential in order to keep the road in a strong and adequate condition.

Other witnesses who appeared to round out the railroad case included Robert J. Stone, vice-president-operation of the St. Louis-San Francisco; Fred Carpi, vice-president in charge of traffic, P.R.R.; John K. Dent, vice-president, Louisville & Nashville; and J. L. Sheppard, assistant vice-president-traffic, Illinois Central. These witnesses were cross-examined with respect to statements filed by them in the proceedings. Questions were generally directed at the manner in which the roads prepared their 1951 ton-mile estimates.

Oral argument on the railroad request for the interim increase was expected to follow immediately upon completion of testimony by the opposing parties in the case. These opponents, which include the National Industrial Traffic League and many shipper groups, in addition to the Department of Agriculture, Department of Commerce, Economic Stabilization Agency, and the General Services Administration, were continuing their testimony as this issue went to press.

I. C. C. Approves R. E. A. Exclusive-Agency Plan

Finding may remove basis for pending anti-trust case

The Interstate Commerce Commission has made the finding sought by the Railway Express Agency in its undertaking to remove the basis for the anti-trust complaint which the Department of Justice has filed against it. The finding is a specific determination to the effect that the "exclusive-agency" provisions of R.E.A. contracts with the railroads comprise a "necessary and essential ingredient" of the commission-approved arrangements for the pooling of express traffic and service.

The anti-trust complaint has been pending in the United States District Court for the District of Delaware since September 1948, the court having postponed consideration of the case until the commission's determination was made. It was made in the commission's report on reconsideration (dated February 12) in Finance Docket No. 7316, the 1929 proceeding in which the pooling arrangements were originally approved. It was a 9-to-1 decision, the dissent having come from Commissioner Alldredge; Commissioner Patterson did not participate.

The "exclusive-agency" provisions are those which constitute R.E.A. as the exclusive agent for each contracting railroad in the conduct of express business, and under which each road agrees not to transport competing traffic on passenger, mail or express trains. The fact that such provisions are "at the heart of the present plan for conducting the express business is shown by the concentration of the government's attack on [them] as the essential element in the monopoly of which it complains in its anti-trust suit," the I.C.C. report said. It also noted that the Interstate Commerce Act's section 5(11) relieves participants in commission-approved pooling plans from requirements of the anti-trust laws.

The commission then proceeded to make its determination. In doing so, it said that government policy "to a considerable extent . . . has encouraged the diminution of competition" in the express business.

"The director general of railroads in 1918," the commission continued, "declined to deal with the seven separate express companies which were then in operation and urged that a single corporation be formed to conduct the express business as his agent. Two years later, in section 407 of the Transportation Act, 1920, the Congress expressly empowered us to approve and authorize the consolidation of four express companies into the American Railway Express Company."

As to the Justice Department's contention that the "restraint," being "100 per cent," was "certainly undue," the commission said that what is "undue" depends "not on its scope but on whether it is improper or inappropriate." The commission also said that the circumstances here "are not similar" to those which prompted it to bar so-called "exclusive-rights" clauses when it approved sale of the Pullman Company to a group of railroads.

Dissenter Alldredge was "not at all certain" that the express contracts, made 22 years ago, are today "promoting better service to the public" or "economy in operations." He has seen indications "quite to the contrary."

"The deficiency of express earnings," Mr. Alldredge said, "is now a serious transportation problem, and if the railroads as a whole cannot or will not solve this problem, then individual carriers who may feel that they at least can effect an improvement by separate action should not be bound by the exclusive-agency provisions."

RAILROADS IN TENNESSEE seek public support in their fight against overweight, underpaying commercial trucks. Here is a recent advertisement which appeals to the self-interest of motorists, and invites their participation in the drive against highway destruction

Franklin Defends P.R.R.'s Relations with Long Island

"To the extent that any proposed or attempted governmental disposition of the property of the Long Island Railroad should fail to recognize the rights of the Pennsylvania Railroad Company and its stockholders to fair and reasonable compensation for the value of its investment in the Long Island under just regulation, your management believes that it will be its duty to take whatever steps may be legally available to it to obtain fair and just compensation. This it must do not only to protect its own stockholders, but as a protest against what would be a major threat to the security of private property in this country."

With that statement, Walter S. Franklin, president of the P.R.R., concludes a special message sent to his company's 200,000 stockholders on February 19. In it, Mr. Franklin charges that public regulatory and taxing authorities are responsible for the L. I.'s bankruptcy, and refutes claims of alleged "milking" of the L. I. by the P.R.R. It follows by only a few days presentation to New York state Governor Thomas E. Dewey of legislation which would provide for public acquisition of the L.I. and its operation by a three-man authority exempt from normal taxes and rate regulations. (See *Railway Age* of January 29, page 36, and February 12, page 125.) The message, which reviews "relations between the two railroads from the time of the Pennsylvania's first acquisition of . . . the Long Island in 1900 down to the time of the Long Island's bankruptcy early in 1949," is a reply to assertions, "in the press and elsewhere," that the Pennsylvania "has been in some way responsible for alleged unsatisfactory conditions on the Long Island."

"The facts conclusively show," Mr. Franklin's statement points out, that the Pennsylvania "has over the years, made a vast contribution to the expansion and improvement of the Long Island and to its ability to serve the public with convenience and safety. . . .

There never has been any secrecy about the relations" of the two companies.

When the P.R.R. first acquired the L.I., the statement continues, "there were sound reasons to expect that the property would, after an initial period of improvement and expansion, become not only a beneficial public service but also a profitable investment for the Pennsylvania and its stockholders." To this end Mr. Franklin says, the P.R.R. has invested some $110 million in the L.I., including $12 million for purchase of its stock, $26 million for payment of bonded debt, and $72 million for improvements which converted the L.I. "from an all-steam, largely single-track local railroad, with only a few passenger coaches, all of wood, to a railroad which was the first in the country . . . to replace its entire ownership of wooden coaches with steel ones, and which is now equipped over practically all its more important lines with electric power; with multiple tracks . . . and with modern . . . safety devices . . . This investment made possible a record of no wrecks resulting in death to passengers for a period of 23 years prior to 1950" and increased the L.I.'s total property investment from "approximately $38 million in 1900" to "approximately $133 million in 1948."

Pennsylvania ownership also has brought other advantages to the L.I., the statement continues, particularly access, "without any capital expenditure on its part," to the heart of Manhattan through the Pennsylvania station, which has "enormously increased the usefulness of the Long Island to the people of the island and contributed more than any other single factor to the rapid development of its communities." In 1948, another part of the statement says, L.I. passengers constituted 70 per cent of the traffic using Pennsylvania station, "whereas its rental payments in that year represented only 17 per cent of the total costs of ownership (including taxes) and operation of the station and its auxiliary facilities."

Frustrated Efforts

"During the period of initial expansion and growth of the L.I., from 1900 to 1920," the message says, "the relatively heavy costs of improvements naturally resulted in a somewhat indifferent financial showing . . . In the period following 1920 and to the end of 1933, however, it appeared that the optimistic expectations entertained by the management of the Pennsylvania in 1900 would be more than fulfilled."

But, it goes on:

"Since 1934, management's efforts to keep the Long Island's head financially above water and operate it as a self-supporting enterprise have been frustrated at practically every turn by—

"Increasingly severe competition from motor vehicles operating over publicly subsidized highways, which has been particularly heavy on Long Island where communities are close together and the hauls are short;

"Increasingly heavy local and state taxes;

"Heavy contributions toward the cost of grade separation projects for the benefit of its motor vehicle competitors;

"Keen competition from city-owned or subsidized subway lines on which a flat 5-cent fare was at the time required to be maintained;

"And finally, complete rejection by the New York Public Service Commission of efforts to obtain increases in the Long Island's passenger fares urgently needed to meet its increased taxes and operating costs."

In more detailed explanation of some of those points, the message declares that the L.I.'s real estate taxes in 1948 "were 75 per cent higher than in the 1926-30 period. Such taxes consumed amounts ranging from 25 per cent to 63 per cent of the L.I.'s net operating revenues in the 1934-1948 period, while corresponding taxes on the Pennsylvania during the same period absorbed from 6 per cent to 23 per cent of its net operating revenues." Between 1940 and 1948 wages were increased 90 per cent "by governmentally constituted boards."

Furthermore, the L.I. "was compelled to spend approximately $32 million" on grade separation projects "primarily for the benefit of users of the highways," to undertake additional projects which may ultimately cost "as much as $10 million," and "to pay increased real estate taxes on structures required for grade crossing eliminations."

Meanwhile, "efforts to obtain needed increases in commutation fares from the New York regulatory authorities . . . were met with a complete and stony refusal." "Prior to 1947," it is pointed out, "these fares had not increased since 1918, a period of 29 years, during the latter part of which the cost of everything the railroad had to buy was subject to the same price and wage increases as were occurring throughout the national economy generally, . . . In 1947, when the L. I.'s situation had become desperate, another application . . . met with some success, although . . . even today the increased fares have not yet been approved on a permanent basis."

"The bankruptcy of the L.I. could have been avoided if the New York Public Service Commission had adequately increased commutation fares at the times when these increases were vitally needed and when such increases, in common with advancing wage rates and prices generally, would have caused no hardship to L.I. patrons."

The statement then refutes, in detail, charges of alleged "milking" of the L.I. by the P.R.R. "Even if these charges were true—and they are in fact untrue . . . —the amount of money involved in them is relatively so small that it could not possibly have accounted for the condition which made the bankruptcy of the L.I. unavoidable. They are apparently brought forward merely to confuse the situation and in an effort to seize upon some excuse for the failure of the state and local regulatory and taxing authorities to recognize the legitimate needs of the Long Island at a time when such recognition would have averted the L.I.'s bankruptcy."

Can Be Privately Operated

Mr. Franklin's message closes with an expression of confidence that the L.I. "has been, and is capable of operating, and continuing to operate, as a self-supporting enterprise if permitted to do so under just regulation," and with an announcement that the P.R.R. "is preparing, for presentation in the bankruptcy proceedings at the proper time, a plan for operation of a reorganized Long Island under private ownership." It then says, just before the concluding paragraph quoted above, that:

"Any public or governmental action to transfer the Long Island from private to public ownership, which would fail to recognize the value of the property of the L. I. under the conditions of just regulation which would be granted to a public authority, would be a direct and undisguised confiscation of private property for the purposes of advancing the policy of public ownership by unjust means.

"For government to destroy the earning power of private property by oppressive regulation and taxation, and then attempt to expropriate the property at a depressed price brought about by the government's own acts, would be the essence of state socialism at its worst."

P.R.R. INDICTED ON 84 COUNTS OF MANSLAUGHTER

Eighty-four indictments returnable March 2 and each charging the Pennsylvania with manslaughter for one of the lives lost in the February 6 accident to the "Broker" at Woodbridge, N. J., were brought in on February 19 by a Middlesex County (N. J.) grand jury. The indictments named only the railroad—not the train crew—charging that the P.R.R. did "feloniously kill and slay" the 84 victims. Maximum penalty for conviction of a corporation on manslaughter charges is a fine of $1,000 on each indictment. Alex Eber, assistant county prosecutor, who sought the indictments, is reported to have said his main purpose is to focus attention on ultimate responsibility for the disaster.

The New Jersey Public Utilities Commission, which has been conducting hearings on possible causes of the wreck, had refused, at the time this issue went to press, to permit reopening of the cut-off where the accident occurred. The commission recessed its hearings at Newark, N. J., on February 21 until 11:30 a.m., February 26.

Long Island Asks Increased Fares

The Long Island has asked the New York State Public Service Commission for immediate increases of 20 per cent in commutation fares and 16⅔ per cent in one-way fares, because of continuing large losses. William H. Draper, Jr., trustee, said additional revenue resulting from the increases also would permit him to seek financing for a modest program of improvements, including

some new passenger cars. The former trustees had asked for an increase of 32½ per cent in commutation fares (excluding the Pennsylvania Station supplemental fare), and a 16⅔ per cent increase in one-way fares in an application on which hearings were begun and then postponed last November.

The request for the fare increases was made in a letter sent by Mr. Draper to Benjamin F. Feinberg, P.S.C. chairman. "It seems clear to me," Mr. Draper's letter said in part, "that if the Long Island Rail Road Commission's recommendation for a state authority is carried out—including the power for the authority to raise its own fares as recommended—the authority would immediately increase commutation fares by at least 20 per cent. In order that the possibility of private reorganization may not be foreclosed, I believe it highly important that your commission permit fare increases at the earliest possible moment."

Trucks To Get Short-Haul Mail, Post Office Says

In what it terms "a basic change in postal transportation policy," the Post Office Department has announced plans for extensive diversion of short-haul bulk mail from railroads to trucks.

John M. Redding, assistant postmaster general for transportation, announced the new policy at a February 19 press conference. He said it will apply initially to mail moving up to 200-mile distances from large terminal areas. The revenue accruing to carriers from this business totals approximately $100,000,000 a year.

Just how much of this total the trucks will take over in the immediate future Mr. Redding could not say. He did say the first cities where truck routes will be placed in operation will be Boston, Mass., and St. Louis, Mo. The department will advertise for bids from truckers in these areas "within two or three weeks."

The department intends to create as many truck routes as possible "to take immediate advantage of cost savings and to expedite mail," Mr. Redding said. Crews are being sent out to lay out truck routes from Indianapolis, Ind., Pittsburgh, Pa., Philadelphia, and Harrisburg, New York, Cincinnati, Ohio, Birmingham, Ala., and Seattle, Wash. At Chicago preparations are "almost complete," although there is a problem of getting dock space there, Mr. Redding said.

Trucking of mail from these principal cities will help set a "national pattern" for other routes. Mr. Redding said 172 terminal points have been asked to furnish information as to the feasibility of diverting mail to trucks.

The department is collecting information as to highway networks, possible truck routes, the mail volume, and connections with city deliveries and other carriers. A major problem confronting the department is that of obtaining docking space for trucks, but Mr. Redding said the post office is prepared to lease such space "if necessary."

In response to questions on the cost of moving short-haul mail by truck, as compared to rail, Mr. Redding said a 60-ft. storage car moving 200 miles by rail costs the department 80 cents a mile. For 50 miles this cost goes up to $1.85 a mile, and for 25 miles it is $3.25 per mile, he added.

A 30- or 32-ft. truck, on the other hand, costs only 25 to 30 cents a mile up to the 200-mi. radius, according to Mr. Redding. He noted that the cost of dock space, plus additional terminal work, probably will increase the truck cost "somewhat."

The rail rates quoted by Mr. Redding are the minimum "which we feel may be placed in effect" as a result of the pending mail pay case (No. 9200) before the Interstate Commerce Commission. In that case, which Mr. Redding said has "some bearing" on the department's plans, the railroads are seeking an increase in the mail-pay rates that were in effect on February 18, 1947. The department says the rate schedule filed by the railroads in the case would yield a revenue increase of about 119 per cent over the 1947 revenue.

Truck routes set up under the new policy will be operated by contract, such contracts being let by the department under the so-called "Star Route" law. Mr. Redding explained that under this law routes must be awarded to low bidders, provided such bidders meet other specifications and can furnish sufficient bond. The contracts are for four years, but truckers may, under the act, seek "adjustments" during the term of such contracts.

Mr. Redding emphasized that the department expects "substantial" savings to result from the changeover to trucks. He said mail service would be speeded in many cases. He predicted only a "small increase" in the number of trucks on the highways even if all short-haul mail is diverted to trucks.

B.R.T. Fined $100,000 For Sickness Strikes

Although he dismissed charges against individual officers and lodges of the Brotherhood of Railroad Trainmen, Federal Judge Michael L. Igoe, Chicago, found the union guilty of both civil and criminal contempt of court for the "sickness" strike of last December 13-16, and entered a fine of $25,000 against it. In finding the union guilty, Judge Igoe, with some minor exceptions, approved the findings and conclusions of U. S. District Attorney Otto Kerner, Jr., that the union disobeyed the terms of the temporary restraining order which was issued at the outset of the December "sickness" strike. He did not, however, uphold Mr. Kerner's contention that the union should be fined the sum of $500,000 for each day of work stoppage, or a total fine of $1.5 million.

The government's second case against the union for civil and criminal contempt under the same no-strike order (which, though temporary at the time of issuance last December, remains effective by virtue of extensions obtained since that time) will be heard by Judge Igoe on May 14. The second set of charges arose from the second "sickness" walkout which lasted generally from January 30 to February 9. The May date was selected in order not to conflict with similar contempt trials scheduled in Cleveland, Ohio, and Washington, D. C. Judge Igoe said the primary purpose of the action was to get the strikers back to work and to adjust the strike situation and he saw no reason to stop other lawsuits solely to hear a duplicate of the hearing just concluded.

B.R.T. to Appeal

The Trainmen's attorney, Walter N. Murray, said he would appeal Judge Igoe's verdict on the December strike. Judge Igoe had overruled Murray's objection to statements in the district attorney's findings and conclusions that the December strike was a "concerted" effort by the union. The judge said there was no question that the "sickness" was a form of strike action and he held that the union had a responsibility for the mass action of its members.

Fines totaling $75,000 were imposed on the B.R.T. in the U. S. District Court for the District of Columbia on February 19, when the brotherhood entered surprise pleas of guilty to contempt-of-court citations resulting from the recent strikes of "sick" switchmen. The citations charged criminal and civil contempt; and the fines on them were $50,000 and $25,000, respectively, imposed by Judge Edward A. Tamm.

Freight Car Program Cut To 9,000 Cars for May

The freight car program, which has been on a 10,000-car monthly basis since it was inaugurated in January, will become a 9,000-car program in May. The National Production Authority has advised participating steel producers that May allocations for the program will total 288,500 tons of steel.

This compares with monthly allocations of 310,000 tons during this year's first four months. It is understood that the Defense Transport Administration is undertaking to have the cut restored.

Freight Car Loadings

Freight car loadings for the week ended February 17 were not available when this issue of *Railway Age* went to press.

Loadings of revenue freight for the week ended February 10 totaled 573,163 cars; the summary for that week,

as compiled by the Car Service Division, Association of American Railroads, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, February 10

District	1951	1950	1949
Eastern	101,789	111,700	133,118
Allegheny	118,172	114,425	150,492
Pocahontas	46,573	20,608	59,816
Southern	107,153	105,776	121,829
Northwestern	51,167	68,456	72,523
Central Western	98,469	93,684	103,569
Southwestern	49,840	54,167	58,095
Total Western Districts	199,476	216,307	234,187
Total All Roads	573,163	568,816	699,442
Commodities:			
Grain and grain products	41,347	39,257	39,667
Livestock	4,871	7,650	7,814
Coal	118,819	52,362	158,378
Coke	14,220	10,645	15,864
Forest products	34,871	34,375	31,536
Ore	11,979	13,102	12,559
Merchandise l.c.l.	56,041	82,986	94,593
Miscellaneous	291,015	328,439	339,031
February 10	573,163	568,816	699,442
February 3	651,124	612,464	682,143
January 27	784,185	635,934	679,302
January 20	779,816	619,163	709,837
January 13	783,025	629,543	733,865
Cumulative total 6 weeks	4,233,757	3,571,673	4,226,096

In Canada.—Carloadings for the week ended February 10 totaled 70,407 cars, compared with 72,157 cars for the previous week, and 71,119 cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
February 10, 1951	70,407	31,287
February 11, 1950	71,119	29,872
Cumulative totals for Canada:		
February 10, 1951	437,942	202,557
February 11, 1950	387,078	169,087

January Gross Revenue 26.9% Above Last Year

From preliminary reports of 81 Class I railroads, representing 81.8 per cent of total operating revenues, the Association of American Railroads has estimated that January gross amounted to $681,884,768, an increase of 26.9 per cent above the $537,170,868 reported for the same 1950 month. Estimated January freight revenue was $571,481,420, as compared with January 1950's $438,731,654, an increase of 30.3 per cent. Estimated passenger revenue was $63,327,069, as compared with $57,587,754, an increase of 10 per cent. All other revenue was up 15.2 per cent — $47,076,279 as compared with $40,851,460.

Senate Group Probes "Op" Wage Dispute

The Senate committee on labor and public welfare began public hearings February 22 in connection with its investigation of the current dispute between the railroads and their employees who are represented by the four train-service brotherhoods. The committee is headed by Senator Murray, Democrat of Montana.

The schedule of the hearings, as announced by Mr. Murray, listed officers of the brotherhoods as the first witnesses. The announcement said further that members of the National Mediation Board and representatives of the carriers would also be heard.

Meanwhile, no progress toward settling the dispute was indicated when this issue went to press. N.M.B. was continuing its mediatory efforts.

N.P.A. Approves May Locomotive Program

The National Production Authority has approved allocations, including 36,600 tons of steel, for locomotive building in May. The program contemplates a May production of about 300 locomotives.

Rock Island Opens New Denver Freight Cutoff

Operations over the new Denver, Colo., freight line of the Chicago, Rock Island & Pacific began on February 9. Known as the Denver Cutoff, the five-mile line gives the Rock Island a direct connection with important rail lines running north from Denver and opens hundreds of acres of land for industrial development.

Operating department officers have estimated that the new line, which has been under construction for almost a year, will save about 12 hours running time on transcontinental freight destined to and from the west coast. In addition, it is expected that interchange of freight in Denver yards will be greatly expedited.

The new line leaves the present main line at Denver and connects with the Rock Island-Denver & Rio Grande Western freight yards at Utah Junction. A total of six bridges over highways, other trackage, and the Platte river were built to accommodate the new line.

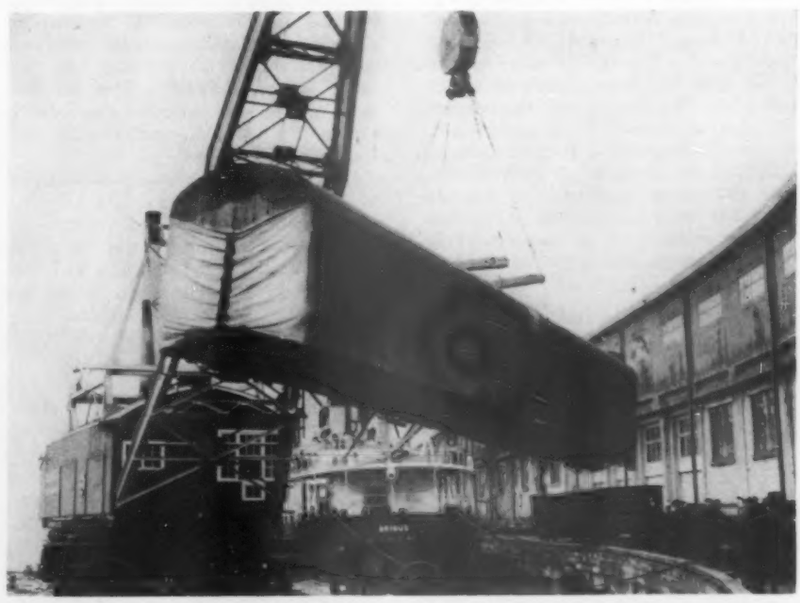
Notes on progress of the line's construction have been carried in *Railway Age's* Construction column since the work began. A full description of the completed line and its operation will appear in an early issue.

New Wage Agreements Signed on Rutland

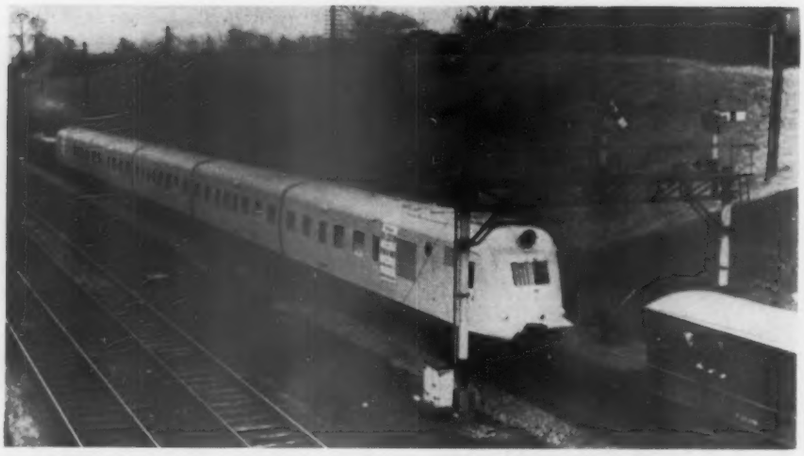
Wage increases estimated to total $550,000 per year — about one-sixth of the company's total present payroll — have been awarded to some 1,160 employees of the recently reorganized Rutland as a result of recent agreements between the railroad and unions representing its employees. The agreements are said to bring wages of Rutland employees close to national standards for the first time in some years.

One agreement, covering 235 operating employees, calls for a total hourly wage increase of 20½ cents effective February 16, 5 cents on July 1, and another 5 cents on September 1. The combined increases, President William E. Navin was quoted as saying, will put the wage level of operating employees virtually on a par with national standards.

Another agreement, with non-operating employees, provides for a single hourly wage increase of 10½ cents February 16, and for a 40-hr. work week as of July 1, in place of the 48-hr. week still in effect on the Rutland. This will put the company's "non-ops" on a par with those on



A 90-TON Halifax, N.S., shipyard crane hoisting a new streamlined 45-ton Canadian National passenger car aboard the C.N. ship "Brigus." The shipment included a 45-ton ballast spreader and three baggage cars. This is the first shipment of a total of 127 freight, express and passenger cars ordered principally from the Eastern Car Company for the C.N.'s Newfoundland district



ONE OF TWO diesel-electric articulated trains recently built for the Egyptian State Railways by the English Electric Company, Ltd. The two trains are the first part of an order for 10 similar trains, costing a total of £3,000,000.

Each train will accommodate 172 first and second-class passengers. They are capable of speeds up to 75 m.p.h. and will operate between Cairo and Alexandria, Egypt, on a schedule of a little over two hours for the 130-mi. trip

other railroads as to working hours, but will leave wage rates about 7½ cents per hour below national standards.

Both agreements cancelled 1949 "escalator" wage agreements, under which wages were increased or reduced whenever the company's operating capital exceeded or fell below prescribed amounts.

Cox Named Assistant Chief Of I.C.C. Traffic Bureau

Edward H. Cox has been appointed assistant director of the Interstate Commerce Commission's Bureau of Traffic. He succeeds C. S. Baxter, who recently became information officer of the Defense Transport Administration.

Mr. Cox has been chairman of the commission's Board of Suspension, and his successor in that position is Ralph D. Hagerman, former assistant chief of the Section of Rail Tariffs. For the latter position, the commission has selected Grayson B. Robinson, who has been a member of its Fourth Section Board.

U.P. Says Senator Tries To "Influence" I.C.C.

The Union Pacific has accused the chairman of the Senate committee on interstate and foreign commerce—Senator Johnson, Democrat of Colorado—of "attempting to influence" the Interstate Commerce Commission to adopt the examiner's proposed report in the so-called Ogden Gateway case. The case is the No. 30297 proceeding wherein the Denver & Rio Grande Western is asking the commission to force open the Ogden, Utah, gateway by requiring the U.P. to participate in joint through rates via that gateway on traffic between so-called Colorado common points and points east thereof and points in Utah, Idaho, Montana, Oregon, and Washington.

The proposed report by the commission's chief examiner, Frank E. Mullen, is now before the commission for consideration. It recommends that the gateway be forced open, an action which would have the effect of short-hauling the U.P., since that road's participation in joint through rates on the traffic involved is now limited generally to rates applicable over routes which make Denver, Colo., the point of interchange. (See *Railway Age* of November 25, 1950, page 50.)

The U.P.'s present pleading is a February 20 petition, asking that the record of the case be reopened for the purpose of receiving in evidence a speech which Senator Johnson made January 27 over radio station KFEL at Denver. The senator discussed the rate controversy, concluding such discussion with this statement:

"It is high time that action be taken to remove the economic shackles imposed upon the people of my state of Colorado by the selfish interests of the Union Pacific, and I am, and will continue to do all that I can to rid my people of such economic tyranny."

In making its charge that the broadcast was for the "sole purpose of attempting to influence the commissioners to adopt and affirm the chief examiner's report regardless of the testimony of record," the U.P. petition noted that the record had been closed. "No doubt," it added, "the Rio Grande will see to it that this broadcast of Senator Johnson's will come to the attention of the commissioners informally or otherwise." Thus the U.P.'s action offering the speech formally.

The petition also said that the broadcast "maneuver" so "entangles" the commission with "dilemmas" that the "clean-cut way out" would be "to dismiss the complaint, leaving the parties to start over again, if they so desire. . ." Meanwhile, the petition had set out the "dilemmas" facing the commission, noting first that Senator Johnson "is chairman of the powerful committee which must approve or disapprove the appointment of the commissioners whose exclusive duty is to decide this case." The "dilemmas" listed were these three:

"First, if the commission should decide for the Rio Grande, Senator Johnson's constituents and the general public, including that part of it which is supporting the Union Pacific and other defendants, will have ground for belief that the senator's off-record efforts have succeeded.

"Second, if the commission should decide for the Union Pacific and other defendants, the public including Senator Johnson's constituents, might well conclude that the commission rightly preferred risking the senator's displeasure to public suspicion that it yielded to the senator's off-record efforts to obtain a decision for the Rio Grande.

"Third, if the commission should decide partly for the Rio Grande and partly for the Union Pacific and other defendants, then the conclusion would be entirely justified that the commission indulged in such fence-straddling in the hope of yet demonstrating its historical integrity to the public and, at the same time, avoiding the appearance of an affront to Senator Johnson for refusing to be guided to any extent by his off-record efforts."

Dr. John H. Frederick Becomes D.T.A. Consultant

Dr. John H. Frederick has joined the staff of the Defense Transport Administration as special consultant. His duties will be "to supervise the study of requirements for transportation equipment and facilities within the field delegated to D.T.A.," the announcement of his appointment said.

Dr. Frederick is professor of transportation in the College of Business and Public Administration, University of Maryland; and he is also consultant on research and education to the Transportation Association of America.

Another recent D.T.A. appointment is that of John H. Middlekamp, who is consultant and specialist for the Street and Highway Division. Mr. Middlekamp has been vice-president of the Mack Motor Truck Corporation. He served during World War II as director of the Automotive Division of the former War Production Board.

Western Railway Tax Group Elects W. K. Bush

The Western Association of Railway Tax Commissioners has elected W. K. Bush, general tax agent for the Chicago, Burlington & Quincy, as president of the organization for the ensuing year. Other officers elected at the annual meeting, held on February 13, include E. H. Browning, assistant gen-

eral tax agent, New York Central, V. K. Boe, tax agent, Minneapolis, St. Paul & Sault Ste. Marie, and J. G. Dugan, real estate and tax agent, Terminal Railroad Association of St. Louis, vice-presidents, and A. B. Olson, auditor, secretary, real estate and tax agent, Chicago Union Station Company, secretary-treasurer.

Following a luncheon held in the Palmer House, Chicago, the group heard Director George S. Douglass of the Interstate Commerce Commission's bureau of valuation describe the history of the bureau and the work it is now undertaking. During the morning session of the meeting, much time was devoted to the question of a single national organization to represent the railroad industry on matters of ad valorem taxes (the Western Association having been formed primarily to discuss Illinois and midwestern tax matters), but no deciding action was taken, as it was pointed out that the wide variance of state ad valorem tax questions would not give a national organization any prime question of nationwide interest on which it could act. But most of the 136 members present agreed that such an organization would be useful in publicizing the inequality of railroad real estate and property taxes compared with those of air, highway and water carriers, the need for adjusting basic school income to sources other than ad valorem taxes, and similar issues.

New Safety-Message Film Added to B. & O. Program

"The Happy Locomotive," a safety-message film for showing to school children, has become part of the Baltimore & Ohio's expanded safety program. It is a slide-film picture in color, and it was previewed February 9 at the Sheraton-Belvedere Hotel, Baltimore, Md., by a group of the road's officers and their guests.

The preview program included a talk by W. C. Baker, B.&O. vice-president in charge of operation and maintenance, who outlined the road's safety program and pointed up the part to be played by the new film. It will be shown in schools throughout the 13-state territory served by the B.&O., Mr. Baker said.

He then introduced Patrolman John Martrano, of the B.&O. Police Department, who made the talk which is to accompany the showing of the film—just as he would at a school assembly. Robert M. Van Sant, B.&O. director of public relations, also spoke briefly at the preview program, introducing Vice-President Baker.

Straw Box Board Used In Wire-Bound Boxes

The U. S. Department of Agriculture has just announced development of a new box board made from straw, designed to replace critical wood veneer now used in making wire-bound shipping containers. This new box board is the result of research by the department's Bureau of Agricultural and Industrial Chemistry, in cooperation with the Stapling Machines Company of Rockaway, N. J.

The straw box board, the department said, "could" replace much of the 1.5 billion sq. ft. of wood veneer needed annually for wire-bound boxes, while its use would utilize less than two per cent of the country's annual straw surplus. The department's release further said that standard wire-bound boxes made of the new board "withstood both drop and rough handling tests as well as boxes made from like thicknesses of wood veneer".

F.S.A. Lists Sanitary Water and Milk Sources

Lists showing the sanitary status of sources from which railroads, air lines, buses and ships normally obtain milk, ice cream and drinking water supplies for passengers travelling in this country and Canada have been issued by the Public Health Service of the Federal Security Agency.

Prepared by the Division of Sanitation, the lists contain the names, locations and sanitary classification of 1,652 vessel watering points, 1,423 railroad watering points, 179 air line watering points, two bus watering points (New Orleans, La., and Houston, Tex.), 558 milk and fluid milk product sources and 286 frozen dessert sources. The latter two lists appear under one heading.

The classifications were made by the Public Health Service on the basis of reports from state health departments. Future editions of the classifications will appear three times a year, and will be dated January 1, May 1 and September 1. Copies may be obtained from F.S.A. regional offices in Boston, Mass., New York, Washington, D.C., Cleveland, Ohio, Chicago, Atlanta, Ga., Kansas City, Mo., Dallas, Tex., Denver, Colo., and San Francisco, Cal.

As it released the above lists, the F.S.A. also announced that certificates of compliance with Public Health Service sanitation requirements, formerly issued only to ships, have been revised to include other types of carriers in interstate commerce.

A certificate, entitled "Certificate of Sanitation," will be placed in railroad dining cars as well as on ships, Surgeon General Leonard A. Scheele said. This certificate reads: "This is to certify that an inspection has been made of this conveyance and that at the time of inspection, the sanitation features and methods in use were found to satisfactorily meet the standards of the Public Health Service." The certificate will be valid only for a limited time and can be removed for cause "at any time" by an authorized Public Health Service representative.

Dr. Scheele said also that the "Certificate of Sanitary Construction," formerly awarded to ships, is going to be awarded in the future to all types of interstate carriers, including trains, planes and buses. This certificate states that at the time of inspection of a particular conveyance "the features of sanitary construction and the sanitation facilities were found to satisfactorily meet the standards of the Public Health Service."

News Briefs . . .

. . . The Apalachicola Northern on February 15 discontinued all passenger service under authority of the Florida Railroad and Public Utilities Commission.

. . . The Baltimore & Ohio has placed two new observation-lounge cars in service on its "Ambassador" between Baltimore, Md., and Detroit, Mich. Two more cars of the same type are scheduled to go into the road's "Capitol Limited" between Washington, D. C., and Chicago. Each of the cars, all built by the Pullman-Standard Car Manufacturing Company, has five double bedrooms and an observation lounge section accommodating 26 persons.

Conservation of Zinc In AB Valves

To improve performance of AB brakes during cold weather, and thereby eliminate some of the previous difficulties experienced in operating freight trains during winter months, A.A.R. Interchange Rule 60 was modified in the 1951 Code to require renewal of certain parts of AB valves in all cases where air brakes receive periodic attention and also to provide for renewal of other parts under certain conditions.

According to a recent A.A.R. Mechanical Division circular, this improvement program will require air-brake manufacturers to furnish these parts of AB valves in quantities considerably larger than heretofore manufactured for replacement purposes. This will involve additional consumption of zinc used in their manufacture; it is likely that restrictions will soon be imposed on consumption of zinc.

Since zinc alloy used in production of these parts is to a specification which must be maintained, scrap material derived from old scrap parts is usable to a maximum degree, and the circular urges that these parts be shipped back promptly to manufacturers for reclamation and reuse of the zinc alloy they contain. Parts of AB valves involved include emergency portion ball check and back covers, service portion back covers, duplex release-valve filling pieces and bodies and quick-service limiting valve covers.

(News Department continued on next right-hand page)

We honor a great railroad and are proud that Scullin Freight Car Castings have played a part in the progress of Illinois Central during the past half century

STEEL CASTINGS MANUFACTURER

SCULLIN STEEL CO.

SAINT LOUIS 10, MISSOURI

NEW YORK
CHICAGO
CLEVELAND
BALTIMORE
RICHMOND, VA.

OVERSEAS

British Railways Establish Single Research Agency

Effective January 1, all research facilities of the British Railways were integrated into a single organization under the control of a research director responsible directly to the chairman of the Railway Executive. The new organization will have seven divisions, each under its own superintendent, dealing with research in chemistry, engineering, metallurgy, protective coatings, physics, textiles and operations. The chemistry and operations divisions will have headquarters in London; the others at Derby.

Services of the new research department will be available to all departments of the British Railways. The department itself will establish a central library and information center, and will publish a monthly bulletin to keep railway officers informed of the contents of the library and of results of research conducted by other organizations.

T. M. Herbert, formerly research manager of the London, Midland & Scottish, will be the first director of research, with E. Morgan as assistant director.

ORGANIZATIONS

At the annual meeting of the **Railroad General Agents Association of San Francisco,** H. R. McCorkel, district freight representative of the Baltimore & Ohio, was elected president. Other officers elected for the ensuing year are: G. C. Seaman, general agent, Delaware & Hudson, first vice-president; E. J. Anderson, assistant general freight agent, Roscoe, Snyder & Pacific, second vice-president; Willard Barr, district freight agent, Southern Pacific, third vice-president, and J. K. Speight, general agent, Denver & Rio Grande Western, secretary-treasurer.

The **Mechanical Division** of the **Association of American Railroads** will hold its annual meeting at Chicago on June 26, 27 and 28. Sessions of the meeting will convene in the Gold Room of the Congress Hotel, beginning at 10 a.m., June 26, continuing until 5 p.m. Meetings on June 27 and 28 will convene at 9 a.m. Secretary Fred Peronto has advised members that every effort will be made to adjourn early in the afternoon of the 28th so that out-of-town members may take advantage of late afternoon train departures.

The **Traffic Club of New York** on February 15 held its 41st annual banquet at the Hotel Commodore. Guest speaker at the banquet, which was attended by 2,400 members and guests, was Representative Walter H. Judd, Republican of Minnesota, who made a talk on "What Shall We Do with Asia?"

The **Air Pollution and Smoke Prevention Association of America, Inc.,** (formerly the Smoke Prevention Association of America) has moved its headquarters from Chicago to Mellon Institute, Pittsburgh, Pa., and has appointed Robert T. Griebling, a fellow of the institute, as its executive secretary. Mr. Griebling, a graduate of the University of Wisconsin, has been interested in public health problems for more than 10 years; has assisted the Industrial Hygiene Foundation in preparation of its annual meetings since 1942, and has served various industries and public authorities in a public relations capacity. His appointment, and the transfer of the association's headquarters, were announced by Charles W. Gruber, president of the association and chief of the Cincinnati, Ohio, Bureau of Smoke Inspection, during a two-day meeting of the association's east central section held at Pittsburgh earlier this month.

The fourth annual convention of the **National Federation of Financial Analysts Societies** will be held at the Hotel Statler in New York on March 7. The railroad forum, which will meet in Parlor 2 from 10:15 a.m. to 11:45, will include discussions by Patrick B. McGinnis, chairman of the Norfolk Southern and partner in McGinnis & Co., on "The Problems Facing Management"; by C. L. Patterson, vice-president and general manager of the Lehigh Valley, on "Improved Economies Through Proper Maintenance"; and by William H. Schmidt, Jr., western editor of *Railway Age*, on "Passenger Business — In or Out." Joseph T. Small, of Paine, Webber, Jackson & Curtis, will preside. Other features of the day's program include similar forums on a number of other industries, a "stock market" luncheon at noon, a reception at 5:30 p.m., and a dinner at 6:30.

SUPPLY TRADE

Edward B. Wilber, formerly district sales manager for the Aluminum Company of America, has been elected president of the **American Lumber & Treating Co.,** Chicago, succeeding **J. F. Linthicum,** who is retiring, effective March 1. Mr. Linthicum will continue as a director of the firm. Mr. Wilber began his career with the Aluminum Company as a sales apprentice immediately after he was graduated from Oberlin College in 1920. He worked in sales positions in Oklahoma and Texas until his appointment as manager of the Washington, D. C., office. In 1943 he was appointed district manager at New York and from 1945 to 1946 worked as a member of the metallurgical division of the U. S.

Edward B. Wilber

Walter D. Monroe, Jr. (above), who has been elected chairman of the board and president of the Chicago Steel Service Company, and Donald F. Grace, (below) who has been elected vice-president and secretary. The organization also has announced the elections of Thomas J. Carmody as a vice-president and J. Hampton Monroe as treasurer

Group Civilian Control Council in Germany.

Hugh W. Foster, whose appointment as advertising manager of **Pullman-Standard Car Manufacturing Company** was announced in the January 22 *Railway Age*, was born in 1921, and was educated at Northwestern University. Mr. Foster joined Pullman-Standard in 1940 at its Butler (Pa.) plant. He served in various capacities in the manager's office until 1944, when he was transferred to

Hugh W. Foster

Chicago. Subsequently he was appointed associate editor of the company's employee magazine, "Carbuilder," and in 1949 became special assistant to the director of public relations, the post he held before his recent appointment.

William E. Gray, first vice-president of the **Peerless Equipment Company,** a subsidiary of **Poor & Co.,** has been elected president, succeeding the late **David W. Lamoreaux,** whose death was reported in the February 5 *Railway Age*. Mr. Gray received his primary and high school education at Pittsburgh, Pa., and graduated from Purdue University in mechanical engineering in 1923. After graduation he taught mechanical engineering for two years, and subsequently was placed in charge

William E. Gray

of the Draft Gear Testing Laboratory set up at Purdue by the Association of American Railroads in 1926. He remained in charge of the laboratory until October 1943, when he entered the employ of Peerless Equipment as vice-president in charge of engineering. In January 1950 he became first vice-president.

OBITUARY

Edward Louis Holljes, general sales manager of the William Sellers Company division, Consolidated Machine Tool Corporation, died on February 3. He was 66 years old.

Edward Joseph Helline, general sales manager of the Reliance division of the Eaton Manufacturing Company, Massillon, Ohio, died on February 8 in the Massillon City Hospital, at the age of 48. Mr. Helline became associated with the Reliance Division 32 years ago as a mail clerk. Before assuming the position of general sales manager, he had advanced through the advertising and sales departments. Subsequently he served as manager of the order and billing department, manager of the service department, assistant to the general sales manager and assistant to the general manager, and

Edward Joseph Helline

was in charge of snap ring sales, engineering and production. He became general sales manager in June, 1947. Mr. Helline was chairman of the standards committee of the Spring Washer Institute.

John G. Little, who retired in 1948 as assistant to vice-president of the Simmons-Boardman Publishing Corporation, died recently. Mr. Little was born in North Chemung, N. Y., on September 14, 1881. He entered railroad service with the Erie in Septem-

John G. Little

ber, 1902, working successively as trackman, rodman, and transitman and from 1903 to 1905, as assistant engineer at Hornell, N. Y. In 1906 he joined the Delaware, Lackawanna & Western as assistant engineer at Binghamton, N. Y., and in 1908 was transferred to Buffalo, N. Y. Mr. Little joined Simmons-Boardman in June

A. B. Drastrup (left), who has been appointed assistant to the president of the A. M. Byers Company, Pittsburgh, Pa., in addition to his present position as manager of steel sales, and Buckley M. Byers, formerly assistant manager

of the New York office and manager of export sales, who has been appointed assistant manager of steel sales, at Pittsburgh. Victor C. Lawrence succeeds Mr. Byers as manager of export sales, with headquarters at New York

1917, as eastern engineering editor of the Railway Age Gazette, now *Railway Age*, and associate editor of *Railway Engineering and Maintenance*. He was appointed special representative at Cleveland, Ohio, in 1924 and assistant to vice-president in 1928.

EQUIPMENT AND SUPPLIES

FREIGHT CARS

The **Atchison, Topeka & Santa Fe** has ordered 500 70-ton gondola cars from its own shops.

The **Atlanta & West Point** has ordered 90 50-ton box cars from the Pullman-Standard Car Manufacturing Company.

The **Cambria & Indiana** has ordered 400 50-ton hopper cars from the Bethlehem Steel Company.

The **Canadian National** has ordered 2,300 freight cars for delivery starting next December. The Eastern Car Company will build 1,500 70-ton 52½-ft drop-end gondola cars and the National Steel Car Corporation will construct 500 70-ton 41-ft. triple hopper cars and 300 50-ton 53-ft. flat cars.

The **Chattahoochee Valley** has ordered 10 50-ton pulpwood cars from its own shops.

The **Chicago & Eastern Illinois** has ordered 100 50-ton box cars from the American Car & Foundry Co.

The **Chicago & Illinois Midland** has ordered 150 70-ton gondola cars from the Pullman-Standard Car Manufacturing Company.

The **Duluth, Missabe & Iron Range** has ordered 1,500 70-ton ore cars from the Pullman-Standard Car Manufacturing Company.

The **Georgia** has ordered 110 50-ton box cars and 100 50-ton hopper cars from the Pullman-Standard Car Manufacturing Company.

The **Great Northern** is inquiring for 700 to 1,000 70-ton ore cars.

The **Merchants Despatch Transportation Corporation** has ordered 1,000 40-ton refrigerator cars from its own shops.

The **Northern Pacific** is inquiring for 250 70-ton gondola cars.

The **Richmond, Fredericksburg & Potomac** has ordered 100 50-ton box cars from the Pullman-Standard Car Manufacturing Company.

The **Southern Pacific** has authorized purchase of 5,500 box, 1,000 gondola and 500 hopper cars.

The **Western of Alabama** has ordered 50 50-ton gondola cars from the Pullman-Standard Car Manufacturing Company.

LOCOMOTIVES

Locomotives on Order

Class I railroads on February 1 had 1,641 locomotives on order, according to the Association of American Railroads. This compared with 1,142 locomotives on order February 1, 1950.

This year's February 1 total included 1,616 diesel-electric locomotives, 21 steam, and 4 electrics. Installations of new locomotives in January totaled 218 diesel-electrics and one steam. In January, 1950, the Class I roads installed 101 new locomotives, including 100 diesel-electrics and one steam.

The **Louisville & Nashville** board of directors has authorized purchase of 67 diesel-electric locomotive units costing about $10,000,000. Included are 47 1,500-hp. freight, 10 1,500-hp. passenger and 10 1,200-hp. switching units.

The **Rutland** has made a commitment to purchase five 1,600-hp. diesel-electric road-switching locomotive units from the American Locomotive-General Electric Companies at an estimated cost of $750,000. One unit has been delivered, one will be delivered in March, one in April and two in June.

SIGNALING

The **Louisville & Nashville** has ordered from the Union Switch & Signal Co. material to install an interlocking at a crossing with the New Orleans Public Belt near New Orleans, La. In addition to the style B-30 control machine, the order includes style H-2 searchlight signals, M-3 switch machines, relays, rectifiers, transformers and housings. Field installation will be handled by railroad forces.

The **St. Louis, Brownsville & Mexico** has ordered equipment from the General Railway Signal Company for installation of an automatic interlocking at Robstown, Tex., for control of a crossing with the Texas Mexican. Types G and L color-light signals are included in the order.

The **Union Pacific** has ordered from the Union Switch & Signal Co. material to install automatic signaling on 17.1 mi. of single track between Hinkle, Wash., and Sand. The order includes style P-5 color-light signals, relays, rectifiers, transformers, switch circuit controllers, motor car indicators and housings. Field installation will be handled by railroad forces.

COMMUNICATIONS

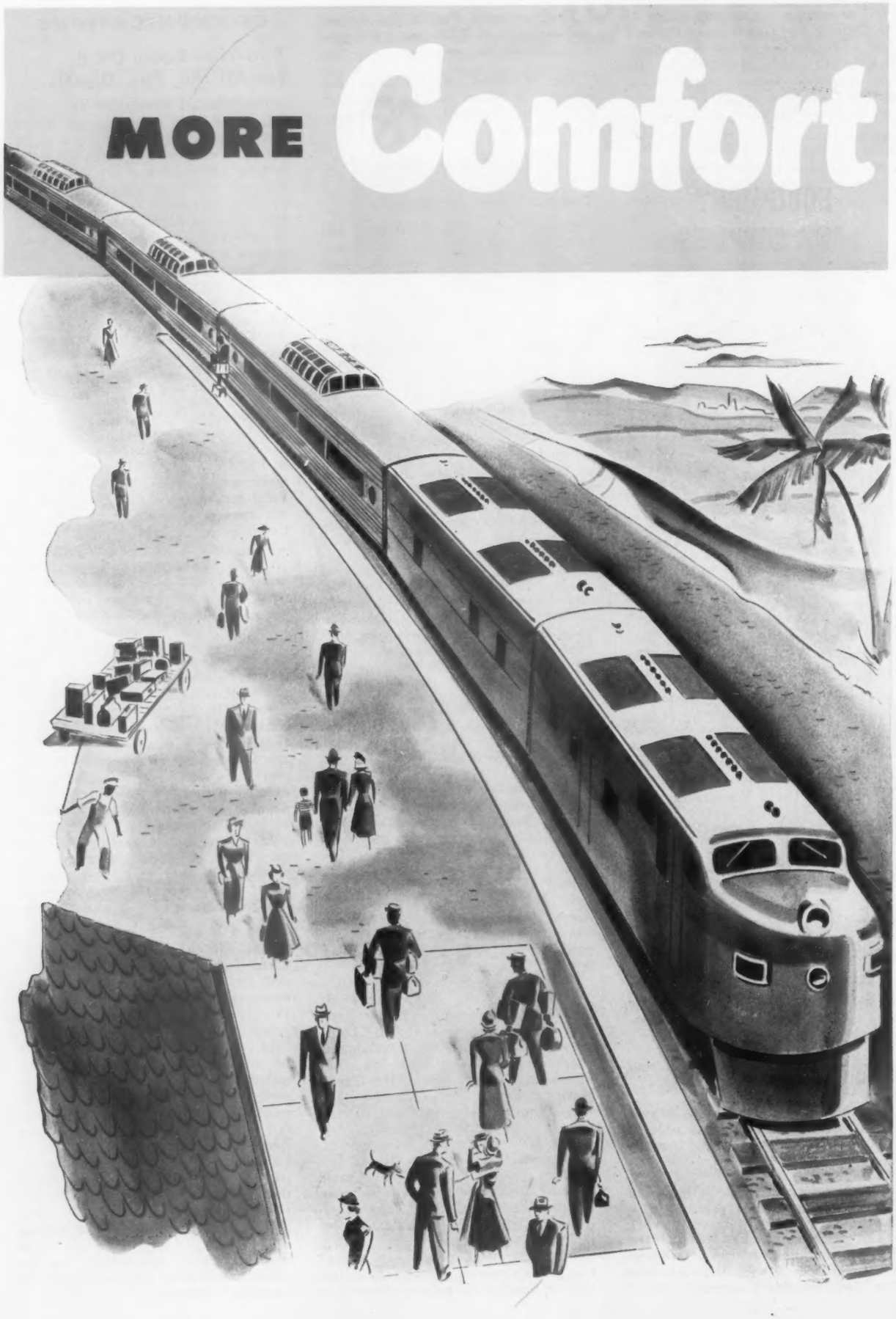
Two-Way Radio OK'd For All Mo. Pac. Diesels

The Missouri Pacific has announced that all its diesel passenger and freight locomotives in road service are to be equipped with two-way radio for train-to-train and end-to-end communication. The railroad has been granted authority by the U. S. District Court at St. Louis, Mo., to spend $324,250 for installation of radio equipment on 137 diesel locomotives and 102 cabooses now in service. In addition to this authorization, 75 locomotives on order will be similarly equipped, and 100 diesel freight units have been or are now being equipped. When all are in service by next summer, according to the road, it will have a total of 312 diesel locomotives and 285 cabooses equipped with radio.

The Bendix Radio Division has received orders for railroad radio communication equipment from the **Texas & Pacific**, the **St. Louis-San Francisco**, the **Chicago, Milwaukee, St. Paul & Pacific**, the **Chicago, Burlington & Quincy**, and the **Atlantic Coast Line**, as follows: The T. & P. order covers radio equipment for 21 diesel locomotives and 25 cabooses, and the Frisco order includes equipment for car checking and utility purposes in the railroad's yards at St. Louis, Mo. The Milwaukee order covers radio equipment for 50 cabooses and, in addition, equipment for wayside radio stations to be installed between Montevideo, Minn., and Aberdeen, S. D. The Burlington order includes additional railroad radio units to complement existing systems, and the Coast Line order represents the seventh complete yard radio system ordered within the past year. Commenting on railroad radio communications equipment, R. B. Barnhill, manager of mobile radio sales, said that sale of such equipment has reached a record high, and that interest of the railroads in two-way radio has increased steadily during the past two years.

The **Northern Pacific** has ordered from the Bendix Radio Division equipment, to cost $150,000, for end-to-end radio communication on through freight trains operating between Dilworth, Minn., and Glendive, Mont., 410 miles. The equipment will be installed on 14 diesel road locomotives and 33 cabooses, and at enough wayside stations so that radio contact with trains will be continuously possible. Any wayside radio station will be able to connect with the train dispatcher's telephone circuit, permitting direct conversation between the dispatcher at Fargo and conductors on trains. Wayside radio sites will be so chosen that each will be able to talk to adjacent radio-equipped stations on either side, thus enabling emergency communication if

(Continued on page 54)


MORE Comfort

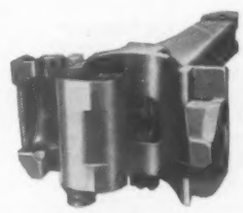
...MORE Revenue

Passengers rarely realize that the *"surface comforts"* of modern trains are possible only because of *"under-the-floor"* equipment, such as Tightlock Couplers and Rubber-Cushioned Draft Gears, that accentuate the smooth pulling power of the diesel locomotives. They only know that these trains offer the maximum of luxury and safety. So, they ride oftener and farther and thus increase passenger revenue.

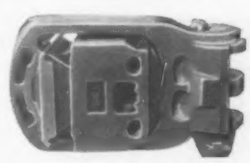
During the 83 years of National's service to the railroads, our aim has been the progressive development of such equipment. The result is that National products are always found on leading passenger trains.

High-speed diesel passenger locomotives, and heavy-duty passenger diesels enhance their smooth performance through National's Rubber-Cushioned Draft Gears.

Selection of these National products is evidence of their proved ability to provide smooth operation and maximum protection.



National A. A. R. Tightlock Coupler



National Rubber-Cushioned Draft Gear—Type M-350-A for Diesel Passenger Locomotives

National Rubber-Cushioned Draft Gear—Type M-380 for Heavy Diesel Passenger Locomotives

NATIONAL'S ADVANCED ENGINEERING WILL CONTINUE TO CONTRIBUTE TO RAILROAD PROGRESS

NATIONAL MALLEABLE AND STEEL CASTINGS COMPANY

Cleveland, Ohio

NATIONAL *Products* FOR TRANSPORTATION AND INDUSTRY

Est. 1868

(Continued from page 51)
wires are temporarily out of service. Wayside radios are to be installed at Fargo, N. D., Buffalo, Peak, Sanborn, Bloom, Windsor, Dawson, Driscoll, McKenzie, Bismarck and Dickinson, and at Glendive, Mont.

CAR SERVICE

Chairman A. H. Gass of the Car Service Division, A.A.R., has sent to transportation officers of A.A.R. member roads a Defense Transport Administration appeal for cooperation in effecting a quicker turn-around of empty tank cars. The appeal was made by Richard H. Lamberton, D.T.A. consultant, in a February 14 letter to Mr. Gass. The letter said that the next 30 to 45 days "will be the most critical . . . in tank car transportation within the next seven months." It added that shortages of tank cars for the transportation of propane and butane "reached almost disaster proportions due to the switchmen's strike." It is "vitally important for the railroads to make strenuous efforts to move empty tank cars as quickly as possible and return them to their home points for loading," Mr. Lamberton also said.

ABANDONMENTS

Division 4 of the I.C.C. has **authorized:**

PENNSYLVANIA & ATLANTIC.—To abandon its line between Hightstown, N. J., and Shrewsbury Road, 5.5 miles. The line was formerly operated by the Union Transportation Company, but no service has been provided since 1945.

CONSTRUCTION

New York Central.—To expedite train movements, this road will begin work soon on extensive track and signal changes at various points along the 63 mi. between Syracuse, N. Y., and Wayneport. The project involves installation of new signaling, high-speed track crossovers, and track connections, which, among other things, will convert the Central's West Shore line to exclusively eastbound operation on the 55-mi. stretch between Wayneport and Belle Isle, near Syracuse.

New York Central.—This road has awarded contracts to the Callanan Road Improvement Company, South Bethlehem, N. Y., for drainage facilities in Massey yard, Watertown, N. Y.; to George F. Walker & Sons, Buffalo, N. Y., for concrete foundation and floor for a fuel oil storage tank, Buffalo; to the D. W. Winkleman Company, Syracuse, N. Y., for grading and construction of foundations for fuel oil tanks, Minoa, N. Y.; to the Chicago Bridge & Iron Works, New York, for a 5,140-bbl. oil storage tank, Watertown; to the Joseph S. Fulton Company, New York, for a P.B.X. building at 138th street and Park avenue, New York; to the Luria Engineering Corporation, New York, for a steel building, Watertown; and to Joseph Davis, Inc., Buffalo, for piping and fire protection work on a fuel oil storage tank in that city.

St. Louis-San Francisco.—Plans for a new combination office building and freight station at Fort Worth, Tex., have been completed and actual construction will get under way as soon as conditions permit. The building is to be located on Vickery boulevard and Hemphill street, adjacent to the Frisco's present freight station. The office section will be two stories high and will house executive and traffic personnel now in the Meachams building, as well as those now in the present freight station. Designed by O. H. Tucker, Frisco architect, the new building will feature moveable partitions in the office section, fluorescent lighting, acoustical ceilings and functional color schemes, based on the location and type of work done in each office. Solar visors, which will admit direct sunlight into the building only during winter months, will highlight its external appearance. Construction of the office section is such that a third floor may be added at a future date. The overall length of the building will be 276 ft. The office portion will be 42 ft. wide and the balance 56 ft. wide. Loading docks will be 151 ft. long.

FINANCIAL

Chicago, St. Paul, Minneapolis & Omaha.—*New Director.*—William E. Buchanan, president of the Appleton Wire Works, Inc., Appleton, Wis., has been elected a member of this line's board of directors. He succeeds the late Walter Geist, who was president of the Allis-Chalmers Manufacturing Company, Milwaukee.

New Securities

Division 4 of the I.C.C. has authorized:

INTERSTATE.—To assume liability for $700,000 of series H equipment trust certificates to finance in part 200 all-steel 50-ton hopper cars costing approximately $800,000. (See *Railway Age* of December 16, 1950, page 66.) The certificates will be dated March 1 and will mature in 10 annual installments of $70,000 each, beginning March 1, 1952. Division 4 approved the sale of the certificates for $696,378 (approximately 99.4826) with interest at 2¾ per cent — the bid of Harriman, Ripley & Co. — which will make the average annual cost of the proceeds approximately 2.88 per cent.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—To assume liability for $2,415,000 of Series G equipment trust certificates to finance in part 21 diesel-electric locomotives costing an estimated $3,021,422. (See *Railway Age* of February 5, page 78). The certificates will be dated as of February 1, and will mature in 15 annual installments of $161,000 each, beginning February 1, 1952. Division 4's report approved a selling price for the issue of 99.229 with interest at 2½ per cent — the bid of Halsey, Stuart & Co. and three associates — which will make the average annual cost of the proceeds approximately 2.63 per cent. The certificates were reoffered to the public at prices yielding from 1.9 to 2.65 per cent, according to maturity.

Dividends Declared

Akron, Canton & Youngstown.—common (irregular), $2, payable April 1 to holders of record March 15; 5% preferred, $2.50, semiannual, payable April 1 and October 1 to holders of record March 15 and September 15.

Chicago, Milwaukee, St. Paul & Pacific.—5% preferred, series A, $5, payable March 21 to holders of record February 28.

Delaware, Lackawanna & Western.—25¢, payable April 2 to holders of record March 16.

Erie & Pittsburgh.—7% guaranteed, 87½¢, quarterly, payable March 12 to holders of record February 28.

Philadelphia, Germantown & Norristown.—$1.50, quarterly, payable March 5 to holders of record February 20.

Southern Pacific.—$1.25, quarterly, payable March 19 to holders of record February 26.

Virginian.—62½¢, quarterly, payable March 23 to holders of record March 9.

Security Price Averages

	Feb. 19	Last Week	Last Year
Average price of 20 representative railway stocks	58.41	60.30	42.68
Average price of 20 representative railway bonds	100.30	100.43	92.06

Investment Publications

[The surveys listed herein are, for the most part, prepared by financial houses for the information of their customers. Knowing that many such surveys contain valuable information, *Railway Age* lists them as a service to its readers, but assumes no responsibility for facts or opinions which they may contain bearing upon the attractiveness of specific securities.]

The Exchange, 11 Wall St., New York 5.

Railroads See Heavier Traffic, Continuing Good Income in 1951, by Pierre R. Bretey. Reprinted from the January 1951 issue of The Exchange, monthly publication of the New York Stock Exchange.

Baker, Weeks & Harden, One Wall st., New York 5.

Gulf, Mobile & Ohio. February 5.

Railroad Review. January 31.

Fahnestock & Co., 65 Broadway, New York 6.

Speculative Railroad Common Stocks. Weekly Review, January 29.

H. Hentz & Co., 60 Beaver st., New York 4.

An Analysis of Great Northern Railway. February 12.

Investment Facts About Common Stocks and Cash Dividends.

Kerr & Co., General Petroleum bldg., Los Angeles, Cal.

Southern Railway Company. February 12, No. 951.

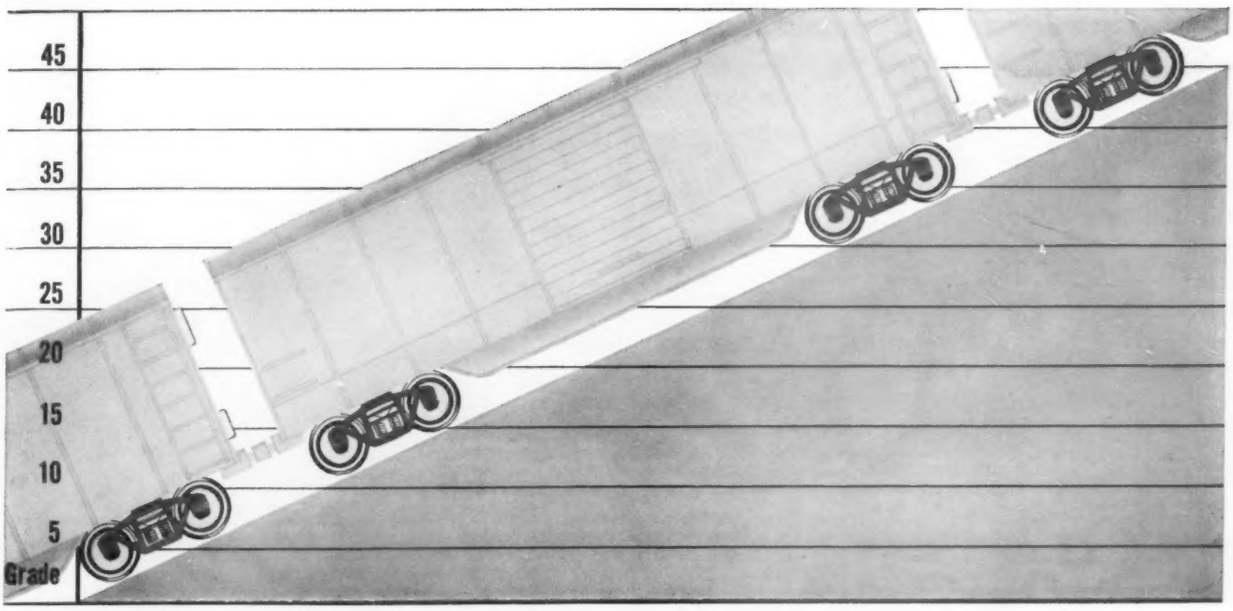
McMaster Hutchinson & Co., 105 South LaSalle st., Chicago 3.

Chicago & Eastern Illinois Railroad. February 13.

Merrill Lynch, Pierce, Fenner & Beane, 70 Pine st., New York 5.

Security and Industry Survey; An

(Continued on page 59)



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BITUMINOUS COAL

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WASHINGTON, D. C.

(Continued from page 54)
Analytical Guide for Investors, issued quarterly. February, 1951.

Jas. H. Oliphant & Co., 61 Broadway, New York 6.

Some Thoughts on Railroad Securities. Oliphant's Studies in Securities, No. 234, January, 1951.

R. W. Pressprich & Co., 48 Wall st., New York 5.

Canadian Pacific Railway. January 17.

Looking at Both Sides of the Railroad Picture; summary of an address at the Maryland Club, Baltimore, Md., on October 24, 1950, by Charles L. Bergmann.

Smith, Barney & Co., 14 Wall st., New York 5.

Railroad Stock Exchange. Railroad Bulletin No. 53, February 9.

Vilas & Hickey, 49 Wall st., New York 5.

Chicago, Milwaukee, St. Paul & Pacific. February 7.

J. R. Williston & Co., 115 Broadway, New York 6.

Current Position of Railroad Securities. February 5.

RAILWAY OFFICERS

EXECUTIVE

Vernon W. Foster, whose retirement as vice-president and general counsel of the ILLINOIS CENTRAL was reported in the January 22 *Railway Age*, was born on January 16, 1881, at Norwalk, Ohio, where he attended

Vernon W. Foster

the public schools. Mr. Foster was graduated from Sandusky (Ohio) Business College in 1897, and the following year entered I. C. service as a stenographer in the accounting department. Subsequently he attended night classes at Kent College of Law, Chicago, receiving an LL.B. degree in 1902. In 1900 he was transferred to the I.C. law department and was appointed secretary to Jacob M. Dickinson, general counsel, who later became secretary of war. Mr. Foster became assistant local attorney in Cook county, Ill., in 1906, and in 1916 was advanced to local attorney. From 1926 to 1932 he served as district attorney, later becoming general solicitor for the system. He was appointed general counsel in 1942, and was elected vice-president and general counsel in 1945.

A. N. Laret, general purchasing agent of the St. Louis-San Francisco, with headquarters at St. Louis, Mo., who has been promoted to vice-president in charge of purchases and stores

C. P. King, director of personnel of the St. Louis-San Francisco, with headquarters at St. Louis, Mo., who has been promoted to vice-president in charge of personnel

Leo S. Johnson, general agent of the NORFOLK SOUTHERN at Philadelphia, Pa., has been promoted to executive general agent at Chicago.

George M. Nolen, assistant to vice-president in charge of traffic of the SOUTHERN SYSTEM at Columbia, S. C., will retire on March 1 at his own request, after 40 years of service. Mr. Nolen was born in Gaston county, N. C., on December 28, 1883, and entered railroad service on November 10, 1910, with the Southern, serving in various clerical positions at Gastonia, N. C., and Charlotte; Richmond, Va.; Washington, D. C.; Atlanta, Ga.; and Birmingham, Ala. He was appointed division freight agent at Columbia on November 1, 1922; assistant to freight traffic manager at Atlanta on August 1, 1925, and commerce agent at Washington on August 16, 1927. In February 1940 Mr. Nolen was appointed assistant freight traffic manager of the system at Washington and on November 1, 1944, became assistant to vice-president at Columbia.

Tedford E. Schoonover, special assistant to the executive secretary of the NATIONAL MEDIATION BOARD at Washington, D. C., has been appointed to the newly created post of vice-president—personnel of the HUDSON & MANHATTAN at New York and will be responsible for all aspects of employee

F. T. Brandt, Jr., manager of personnel of the Elgin, Joliet & Eastern, who was recently appointed assistant vice-president in charge of personnel, at Chicago, as announced in the January 8 *Railway Age*

Frank J. Jerome, who has been vice-president, operations and maintenance of the New York Central since September 1, 1947, has been appointed executive vice-president, with headquarters as before at New York

relations. Mr. Schoonover was graduated from George Washington University and was employed for seven years by the Chicago, Rock Island & Pacific before entering government ser-

Tedford E. Schoonover

vice in 1934. He has served on the staffs of the Federal Coordinator of Transportation, the Railroad Retirement Board, and the Office of Defense Transportation. During World War II he saw combat duty in the Pacific as an officer in the Navy.

FINANCIAL, LEGAL & ACCOUNTING

Thomas H. Maguire has been appointed general attorney and commerce counsel of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC at Chicago, as reported by *Railway Age* on January 15, at which time Mr. Maguire's last name was incorrectly spelled. Born in Toledo, Ohio, July 3, 1894, Mr. Maguire attended the public schools of that city and the Universities of Michigan and Oregon. He began railroad service with the Oregon-Washington Railroad & Navigation Co. (now Union Pacific) in July 1924, as an attorney at Portland, Ore. In 1929 he became assistant western counsel for the Northern Pacific at Seattle, Wash., and from 1934 to 1936 was engaged in general practice in that city, joining the Milwaukee in 1937 as assistant general attorney. Mr. Maguire became general attorney at Seattle in March 1950, the post he held until his recent appointment.

Frank O. Marshall, whose appointment as assistant comptroller of the WABASH at St. Louis, Mo., was announced in the January 8 *Railway Age*, was born at Grassies, Ont., February 7, 1895, and was educated in the grade and high schools of Dunville, Ont., and Central Business College, Hamilton, Ont. Beginning his railroad career in September 1912 with the Grand Trunk at Hamilton as a clerk in the motive power department, Mr. Marshall later served for a short time as chief clerk in that department at Stratford, Ont. From October 1915 to June 1919 he was on overseas duty with the Canadian Expeditionary Force. On his return to the Grand Trunk he served as clerk at Sarnia, Ont., and Windsor until June 1920. In July 1920 Mr. Marshall joined the Wabash's accounting department at St. Louis as clerk, later serving successively as traveling accountant at St. Thomas, Ont., and Detroit, Mich., and chief traveling accountant at St. Louis. He became assistant auditor disbursements in 1936, and auditor joint facilities and contracts in April 1945. From 1947 until his present appointment he served as assistant auditor at St. Louis.

Max Jauch has been appointed car accountant of the CHICAGO & NORTH WESTERN, at Chicago with jurisdiction over car accounting, demurrage and storage matters.

William Stirling, freight claim agent of the Central region of the CANADIAN NATIONAL, has been appointed general freight claim agent of the system, with headquarters as before at Montreal, Que., succeeding **A. G. Gilmour,** who has retired after more than 50 years of service. Born at Glasgow, Scotland, Mr. Stirling began his railway career in 1913 as a file clerk in the freight claim department of the C.N. at Winnipeg, Man. He enlisted in the Canadian Expeditionary Force in 1915 and, on his return to the C.N., was appointed investigator at Winnipeg. He was promoted to traveling freight claim agent there in 1941, chief clerk in 1945, district freight claim agent two years later, assistant to the general freight claim agent at Montreal in 1948, and freight claim agent in 1950.

OPERATING

J. J. Campbell, trainmaster of the CANADIAN NATIONAL, has been appointed assistant superintendent of the St. Lawrence division, with headquarters as before at Montreal, Que. **A. W. Louch,** trainmaster at Brantford, Ont., has been transferred to Montreal, to succeed Mr. Campbell.

Due to the illness of **George A. Voelkner,** general manager of the BELT OF CHICAGO, at Chicago, **C. L. Poole,** superintendent, has been appointed acting general superintendent.

As reported in the January 8 *Railway Age*, **William C. Baisinger,** superintendent of the ATCHISON, TOPEKA & SANTA FE at Dodge City, Kan., has retired, and has been succeeded by **C. B. Kurtz,** formerly trainmaster at Pueblo, Colo. Mr. Baisinger was born on November 8, 1885, at Eaton, Ind., and obtained his civil engineering degree from Purdue University in 1909. He first entered Santa Fe service in August 1907 as a masonry inspector at Galesburg, Ill. He was appointed rodman in November 1907 in which capacity he continued until February 1908 when he returned to Purdue. In June 1909 he was again appointed rodman, being advanced to transitman in 1910, and subsequently to assistant engineer and division engineer. Mr. Baisinger was transferred to Chicago in 1917, where he served as assistant engineer and office engineer in the office of chief engineer, system; two years later he was appointed division engineer at Chillicothe, Tex. From 1922 to 1923 he served as district engineer at Topeka, Kan., and subsequently moved to Arkansas City, Kan., as assistant superintendent, becoming superintendent at the latter point in February 1933. He was transferred to Dodge City as superintendent in July 1936.

Mr. Kurtz was born on September 27, 1906, at Wellington, Kan., and attended Friends University, Wichita, Kan., for two years. His career with the Santa Fe began in March 1930 as a stenographer in the division engineer's office in his home town. Subsequently he served as stenographer and clerk in various departments until 1937, when he became secretary to superin-

C. B. Kurtz

tendent at Pueblo. From February 1941 to June 1942 he served as secretary successively to the assistant general manager at La Junta, Colo., and to the general manager at Amarillo, Tex. Following five months service as transportation inspect r, in November 1942 he was advanced to trainmaster at San Angelo, Tex., being transferred to Waynoka, Okla., in January 1946. Mr. Kurtz became trainmaster at La Junta in September 1949 and at Pueblo in September 1950.

Fred Musgrave, who has been appointed superintendent of transportation of the CANADIAN NATIONAL'S Manitoba district, as announced in the January 22 *Railway Age*, was born on February 4, 1889, in Nova Scotia. Mr. Musgrave started railroading in June 1911 as an operator at Dauphin, Man., with the Canadian Northern, (part of the C. N.). Later he served at various points in the west as operator and relief dispatcher until his appointment as chief dispatcher at Dauphin in 1919. After serving as rule in-

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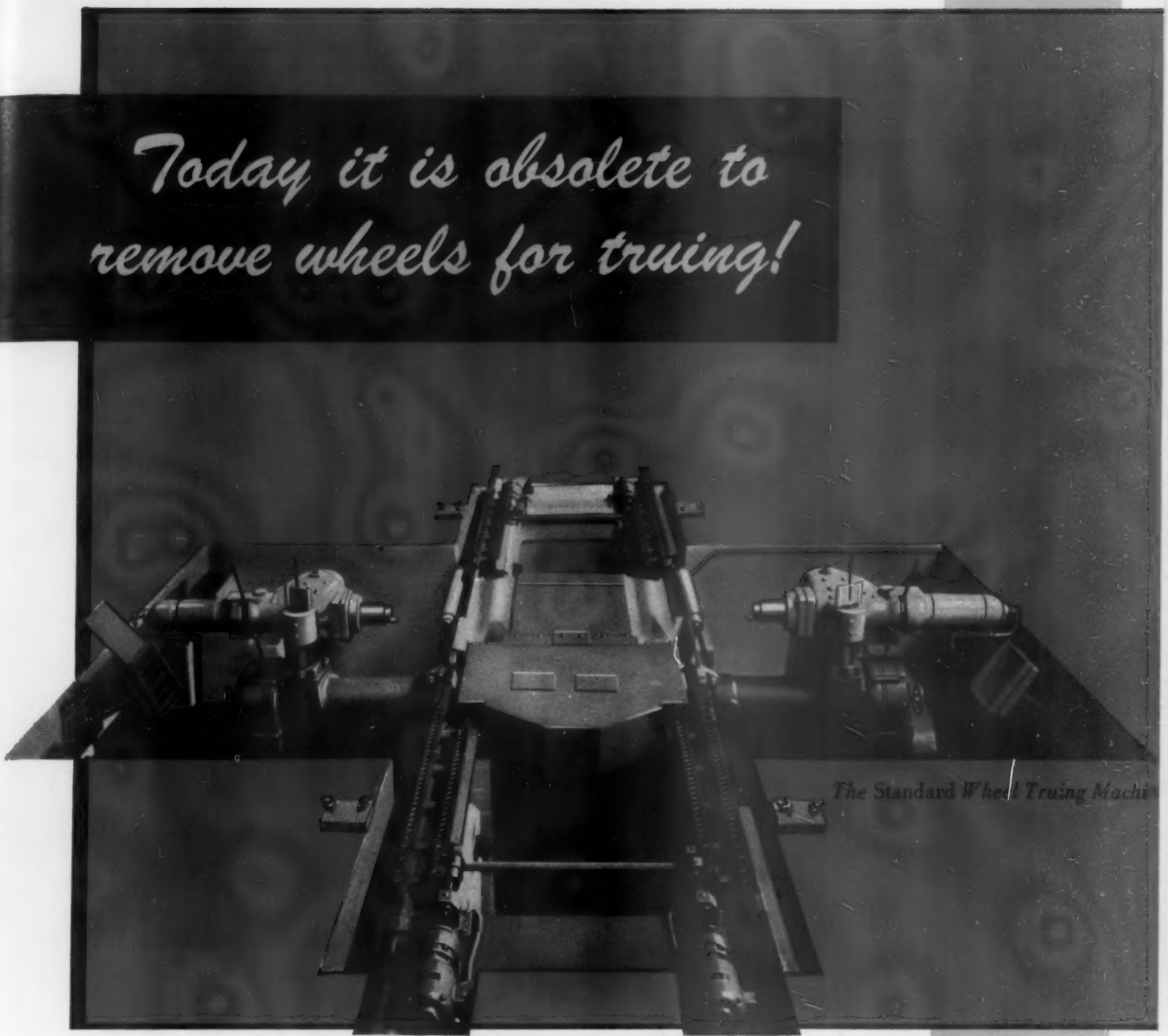

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structor at Saskatoon, Sask., and other points, in October 1944 Mr. Musgrave became inspector of train dispatching at Winnipeg, Man., and

Fred Musgrave

in January 1949 was made transportation assistant, the position he held before his new appointment.

R. A. Craven, whose appointment as superintendent of the Port Arthur division of the CANADIAN NATIONAL was reported in the January 22 *Railway Age*, was born on December 1, 1892, in Ontario. Mr. Craven began his railroad career in June 1911 with the Grand Trunk (part of the C. N.) at Barrie, Ont., as a clerk. The following November he moved to Kamsack, Sask., as operator, later serving

R. A. Craven

as operator and agent for several years at various points in western Canada. He was made dispatcher at Sioux Lookout, Ont., in 1921, and in 1930 became night chief dispatcher at Kamloops, B. C. From February 1944 to January 1949, Mr. Craven served as transportation assistant at Winnipeg. Subsequently he was promoted to superintendent of transportation on the Manitoba district, which position he held until his recent appointment.

J. M. MacArthur, who has retired as general manager of the NORTHERN ALBERTA, as reported in the January 22 *Railway Age*, was born at Toronto, Ont., on December 8, 1885, and began his railroad career in July 1902 as a clerk and stenographer on the Canadian Pacific. He subsequently held various clerical posts until 1913, when he was appointed trainmaster at Medicine Hat, Alta. The following year Mr. MacArthur was transferred to Calgary, Alta., and in 1915 was appointed acting superintendent at Nelson, B. C. After serving in the same

J. M. MacArthur

capacity at Lethbridge, Alta., in 1916 he became superintendent at Kenora, Ont. From 1918 to 1937 Mr. MacArthur served with the C. P. as superintendent successively at Medicine Hat, Regina, Sask., and Vancouver, B. C. He became general manager of the N. A. (operated jointly by the Canadian Pacific and the Canadian National) in 1937.

Robert Edwin Brooks, who has retired as general manager of the BUTTE, ANACONDA & PACIFIC, at Anaconda, Mont., as announced in the January 15 *Railway Age*, was born at

Robert Edwin Brooks

Bismarck, Mo., February 5, 1885. Mr. Brooks began his railroad career in 1899 as a messenger on the Louisville & Nashville, serving from 1900 to 1910 as telegraph operator, train dispatcher and chief dispatcher on that road. Subsequently he went with the Atchison, Topeka & Santa Fe as train dispatcher, and in September 1911 became employed on the Denver & Rio Grande (now Denver & Rio Grande Western) as dispatcher, joining the Union Pacific in a similar capacity the following December. From 1917 to 1922 Mr. Brooks served as dispatcher, chief dispatcher and assistant superintendent on the Oregon Short Line, and later became superintendent on the line's Montana division. He was appointed general superintendent of the U. P. at Cheyenne, Wyo., in 1928, and in 1931 was again made superintendent on the O. S. L. He started with the B. A. & P. in April 1932 as superintendent, and in January 1943 was promoted to general manager.

As reported in the January 22 *Railway Age*, **James G. Beard,** has been promoted to superintendent of the SOUTHERN at Selma, Ala. Mr. Beard was born on April 22, 1916, at Bedford, Va., and was graduated from Virginia Military Institute. He entered the service of the Southern as a rodman in September 1938, serving subsequently in the maintenance of way department as a student apprentice, assistant supervisor, assistant to road-

James G. Beard

master and as a track supervisor. In World War II he served with the Southern-sponsored 727th Railway Operating Battalion, returning to the Southern in October 1945 as supervisor at Huntingburg, Ind. Later he acted as trainmaster at Somerset, Ky., and at Hattiesburg, Miss. In March 1947 Mr. Beard was transferred to Oakdale, Tenn., and in November 1949 moved to Danville, Ky., where he was located before his promotion.

Edgar J. Brosseau, trainmaster of the ILLINOIS CENTRAL at Decatur, Ill., has been advanced to assistant superintendent there. **Lyle R. Clayton,** assistant trainmaster of the Iowa division at Dubuque, succeeds Mr. Brosseau.

Fred Warner Bellinger, whose promotion to general manager of the BUTTE, ANACONDA & PACIFIC, at Anaconda, Mont., was reported in the Jan-

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uary 15 *Railway Age*, was born on September 18, 1886, at Cannon Falls, Minn. He entered railroad service in the summer of 1906 as an electrician on the Great Northern, and subsequently held the position of traveling electrical foreman and, later, chief electrician in charge of Cascade tun-

Fred Warner Bellinger

nel electrification. From 1912 to 1913 he was associated with the Consumers Power Company at St. Paul, Minn., and the Northern Mississippi River Development Company at Minneapolis, joining the B. A. & P. in 1913 as electrical superintendent at Anaconda. Mr. Bellinger was appointed mechanical and electrical superintendent in 1932 and superintendent in 1943, serving in the latter capacity prior to his recent promotion.

George D. Davis, district manager of the Great Lakes Area, for the Car Service Division, ASSOCIATION OF AMERICAN RAILROADS, at Detroit, Mich., has been transferred to the Pacific Coast area at San Francisco, Cal., succeeding **William C. Griffin,** who will retire on March 1, after more than 45 years in the railroad industry, almost 30 of which have been with the Car Service Division. **Walter L. Harvey,** district manager of the Northwest area at Minneapolis, Minn., has been transferred to the Great Lakes area at Detroit. **Bruce W. Taylor,** assistant to the manager of the Closed Car Section of the C.S.D. at Washington, D. C., has been appointed district manager of the Northwest area at Minneapolis.

J. A. Smoak, Jr., terminal trainmaster of the ATLANTIC COAST LINE, has been appointed trainmaster of the Columbia district, with headquarters as before at Florence, S. C. **W. T. Bullard,** general yardmaster, has been appointed terminal trainmaster, with headquarters as before at Florence.

TRAFFIC

As reported in the January 8 *Railway Age*, **Charles T. Collett** has been appointed general traffic manager

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of the SOUTHERN PACIFIC, with headquarters at Chicago. Mr. Collett was born at Pine Bluff, Ark., on August 8, 1888, and started railroading in 1907 on the St. Louis-San Francisco at St. Louis, Mo., as a claim clerk. Subsequently he served with the Frisco in various clerical positions at St. Louis and Oklahoma City, Okla., until October, 1912, when he went with the S. P. as commercial agent at Oklahoma City. Four years later he became general

Charles T. Collett

agent for that road at Kansas City. From 1918 to 1920, he was associated with the Campbell Paint & Varnish Co., St. Louis, as sales manager. On his return to the S. P. in 1920 he was appointed general agent at St. Louis, being transferred to Chicago in 1923. In 1926 he was advanced to assistant to traffic manager, and in 1929 was promoted to assistant freight traffic manager. Mr. Collett was further advanced to freight traffic manager at Chicago in 1938, in which capacity he was serving prior to his new appointment.

Passenger department offices of the CANADIAN PACIFIC and the MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE in Chicago have been moved to a new location at 39 South LaSalle street. General Agent **G. W. Cleland** remains in charge of all rail passenger matters and **H. W. Eagle** remains as general agent for the C.P.'s steamship passenger department.

K. K. Blyth, traveling freight agent of the CHESAPEAKE & OHIO at Toronto, Ont., has been appointed division freight agent at Chatham, Ont. **V. V. Smith,** traveling freight agent, has been appointed general agent at Chatham.

Hugh L. Marston, officers' assistant of the SOUTHERN SYSTEM, has been promoted to assistant coal freight agent, with headquarters as before at Atlanta, Ga.

W. W. Pace, traveling passenger agent of the SOUTHERN at Macon, Ga., has been promoted to district passenger agent at Birmingham, Ala., suc-

ceeding **G. B. Bingham,** who has been transferred to Miami, Fla. Mr. Bingham replaces **T. F. Davidson,** whose appointment as general passenger agent at New York was reported in the *Railway Age* of February 19.

Ernest C. Crow, general agent of the CHICAGO & NORTH WESTERN at Milwaukee, Wis., has been transferred in that capacity to St. Louis, Mo., to succeed **I. S. Olsen. D. C. Mead,** general agent, freight department, at Minneapolis, Minn., moves to Pittsburgh, Pa., as general agent, succeeding **H. P. Dickson,** and **L. A. Thomas,** general agent at Sioux City, Iowa, succeeds **F. H. Tribbey** as division freight and passenger agent at that point. Messrs. Olsen, Dickson and Tribbey were recently promoted to traffic managers, as announced in the January 22 *Railway Age*. **O. D. Peters,** traveling agent at Sioux City, replaces Mr. Thomas. **H. B. Buchhols,** city agent at Milwaukee, becomes Mr. Crow's successor, and **J. J. Hartnett,** also city agent at that point, becomes district freight agent. **E. W. Ernst,** general agent, freight department, at New York, has been appointed general agent at Cleveland, Ohio, succeeding **H. C. Langerude,** who has been transferred to Washington, D. C. Mr. Langerude succeeds **F. J. Herhusky,** who moves to Minneapolis as Mr. Mead's successor.

Arthur P. Lait, general eastern passenger agent of the CANADIAN NATIONAL, has been promoted to general passenger agent, with headquarters as before at New York. Mr. Lait, a native of Winnipeg, Man., entered the service of the C.N. at Winnipeg in 1912 and, after serving in a number of positions, came to the United States in 1925 as ticket clerk in the New York passenger department office. He was promoted to general agent in charge at Washington, D. C., in 1940 and remained there until 1946 when he was promoted to general eastern passenger agent at New York.

George D. Nugent, general agent of the CANADIAN NATIONAL at Minneapolis, Minn., has been appointed to the dual position of general passenger agent of the CENTRAL VERMONT at St. Albans, Vt., and general agent of the C.N. at Boston, Mass., succeeding the late **S. C. Vaughan,** who died recently in Boston. Mr. Nugent was born at Minneapolis on August 6, 1893, and began his railroad career as rate clerk in the passenger traffic bureau of the C.N. at Toronto. He subsequently served in various positions until February, 1941, when he was appointed general agent at Minneapolis.

Charles J. Ploss, who has been promoted to assistant freight traffic manager of the CHESAPEAKE & OHIO at San Francisco, Cal., as reported in the January 8 *Railway Age*, was born on December 5, 1906, at Cincinnati, Ohio. Mr. Ploss was educated in his native city, being graduated from Hughes high school in 1924 and Millers Business College in 1925. His railroad career began in May, 1926, with the Pere Marquette (now P. M. district, C. & O.) at Cincinnati. He was appointed traveling freight agent for that road at Cincinnati in July, 1931, and commercial agent in October, 1945. From May, 1946, to March, 1947, he served as general agent for the P. M. at Cincinnati. Subsequently he was appointed to the same position for the C. & O. at that point, in which capacity he was serving before his promotion.

As reported in the *Railway Age* of December 30, 1950, **M. R. Garrison** has been appointed freight traffic manager of the NEW YORK CENTRAL SYSTEM at New York. Mr. Garrison was born at Haverstraw, N. Y., in 1888 and entered the service of the N.Y.C. in 1906 as a clerk at Weehawken, N. J. He transferred to New York in 1909 as clerk in the office of the general freight agent, and in 1915 became chief clerk

M. R. Garrison

to the assistant general freight agent. During World War I Mr. Garrison served as assistant to traffic assistant of the Regional Director, United States Railroad Administration. Returning to the N.Y.C. in 1920, he became assistant general freight agent in 1926; general freight agent in 1929; assistant to vice-president, freight traffic, in 1941; and assistant freight traffic manager in 1942.

PURCHASES & STORES

As announced in the *Railway Age* of January 8, **Richard L. Gholson** has been promoted to the new position of general storekeeper of the CENTRAL OF GEORGIA at Macon, Ga. Mr. Gholson was born at Recovery, Ga., and was graduated from the public schools of Decatur county, Ga. He took a premedical course at the University of Georgia for two years, and a special course in accounting and banking at the Georgia-Alabama business college in Macon. Mr. Gholson entered the service of the C. of G. on July 1, 1912, as clerk in the Macon store and three years later transferred to the stores accountant's office at Savannah, Ga. He left the C. of G. on September 23, 1917, and returned on October 15, 1918, as storehouse foreman at Macon. Subsequently he served as chief clerk to storekeeper, general foreman, and

Richard L. Gholson

reclamation superintendent, all at Macon. He was promoted to storekeeper at Macon on January 16, 1948, which position he held until his recent appointment as general storekeeper.

SPECIAL

R. C. MacLellan, advertising manager of the BALTIMORE & OHIO at Baltimore, Md., will retire on April 1, after 53 years of service.

Dr. I. D. Siminson, chief surgeon of the NEW YORK CENTRAL SYSTEM, with headquarters at Chicago, has retired because of ill health after more than 25 years of service. He is succeeded by **Dr. J. D. Claridge.**

Edwin K. St. Clair, assistant passenger trainmaster of the LONG ISLAND, has been appointed director of the road's newly established safety department. **Machlin E. Sternburgh,** safety director of the New York City Transit System, is being loaned to the L. I. on a part-time basis for about three months to assist Mr. St. Clair, in an advisory capacity, in establishing a safety organization on the road.

OBITUARY

John Reed, retired civil engineer who was senior engineer in the Eastern district of the Bureau of Valuation of the INTERSTATE COMMERCE COMMISSION at Washington, D. C., from 1914 to 1922, died on January 15 at his home in Benton Falls, Waterville, Me. Mr. Reed, who was born on February 27, 1863, and was graduated in engineering from the University of Maine in 1889, had been connected with construction on a number of railroads, including the Norfolk & Western, the New York, New Haven & Hartford, the Carolina, Clinchfield & Ohio (now Clinchfield), and the Winston-Salem Southbound.

VANADIUM

FOR WELDABILITY

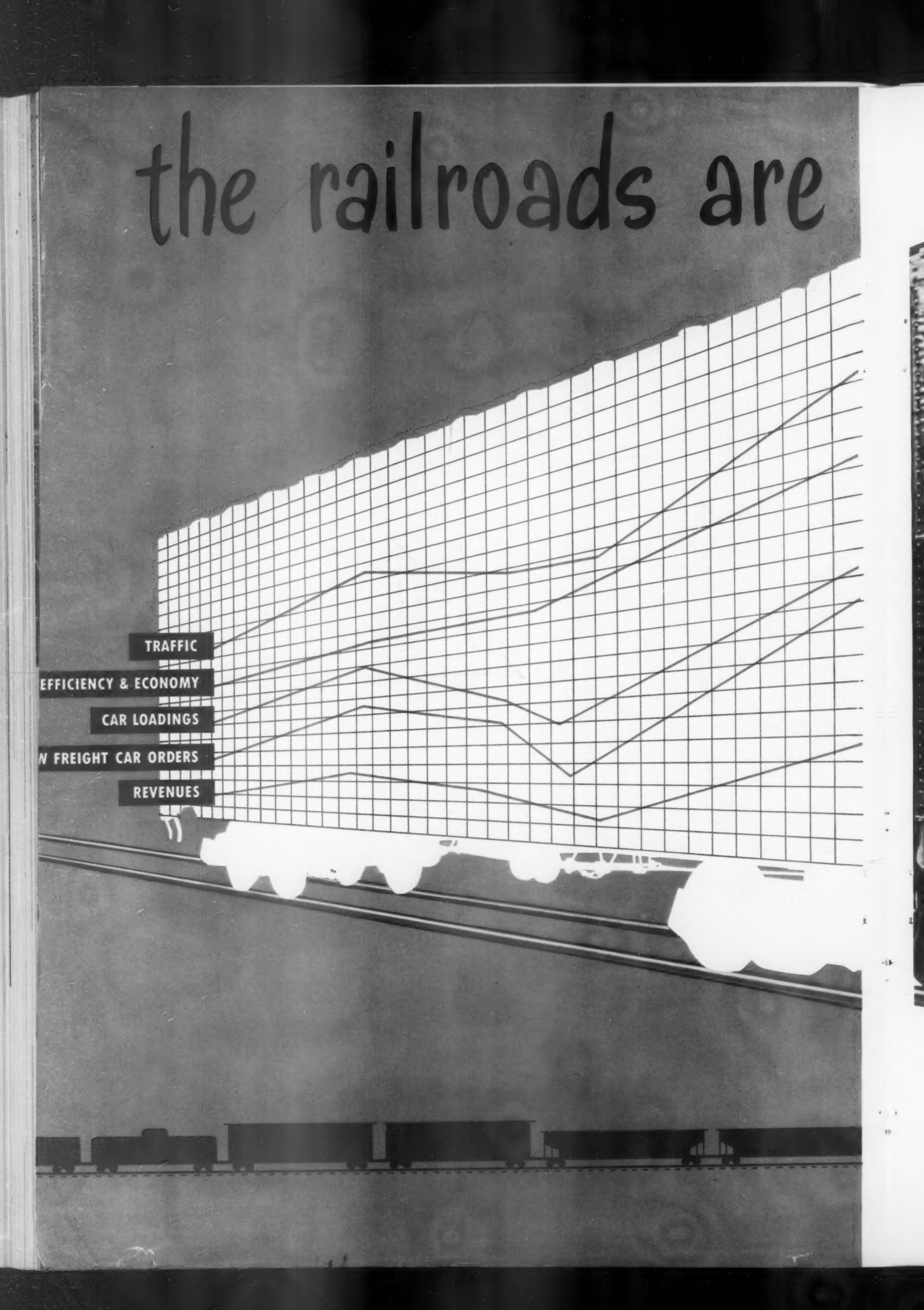
WRITE US FOR DATA ON THE SUPERIOR
WELDING PROPERTIES OF VANADIUM STEELS

VANADIUM CORPORATION OF AMERICA

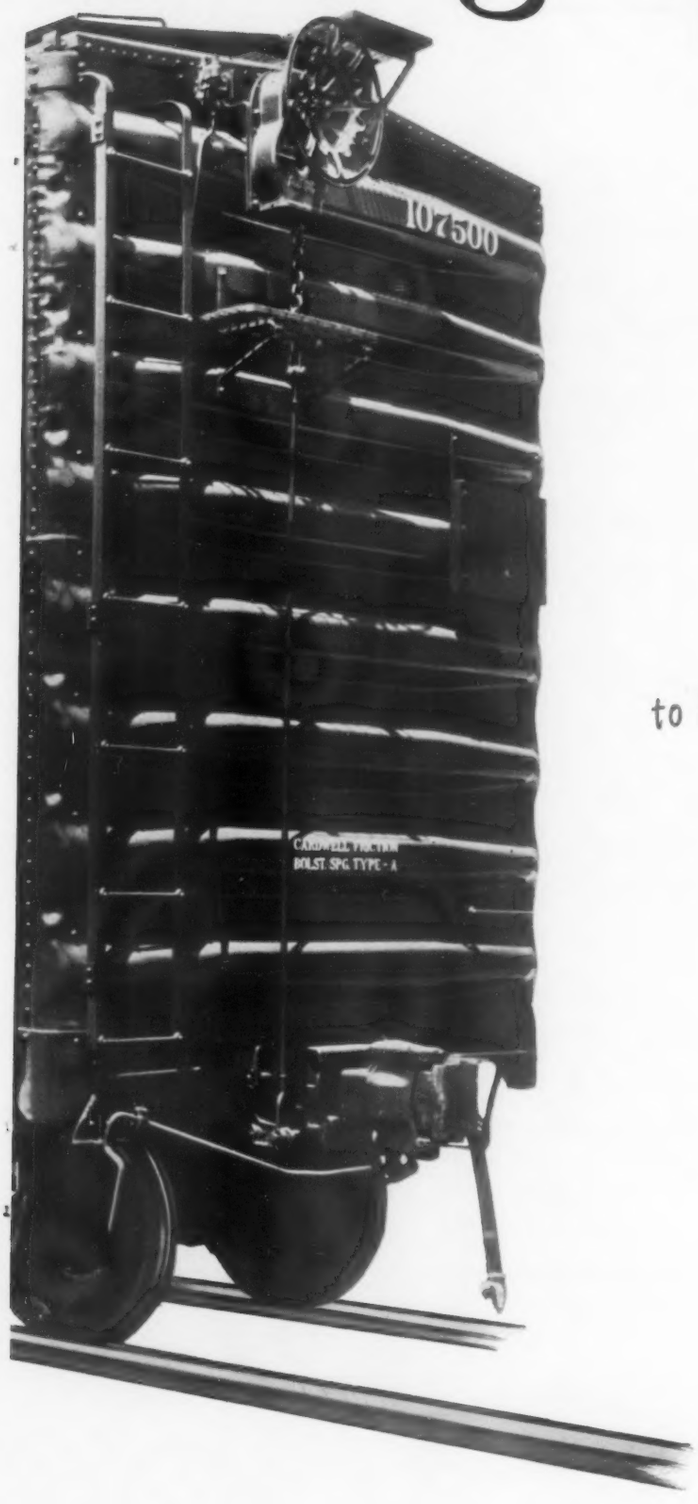
420 LEXINGTON AVENUE, NEW YORK 17, N. Y. • PITTSBURGH • CHICAGO • DETROIT • CLEVELAND

MAKERS OF ALLOYS

CHEMICALS AND METALS


the railroads are
TRAFFIC
EFFICIENCY & ECONOMY
CAR LOADINGS
N FREIGHT CAR ORDERS
REVENUES

looking up!



The year 1951 promises to go down in history as a record breaker for America's Railroads. The trend is upward in traffic, car loadings, expenses, revenues and new freight car orders. And once again in a national crisis, the railroads are ready and able to meet emergency needs.

Freight car orders, particularly, are at a new high, surpassing the post-war peak in 1947. Following a sharp decline in total car ownership during 1949, the surge of new freight car orders during 1950 has created an unprecedented backlog for car builders and car shops.

to build or to buy?

a.c.f.'s vast car building facilities...with fabricating know-how and assembly-line production techniques unduplicated in any railroad car shop...are geared for top-speed deliveries. Delivery schedules are being met as quickly as availability and allocation of materials permit. If *your* new freight car needs are especially urgent, consult with an a.c.f. representative without delay for estimated delivery dates.

American Car and Foundry Company, New York
Chicago • St. Louis • Philadelphia • Cleveland
Washington • Pittsburgh • San Francisco.

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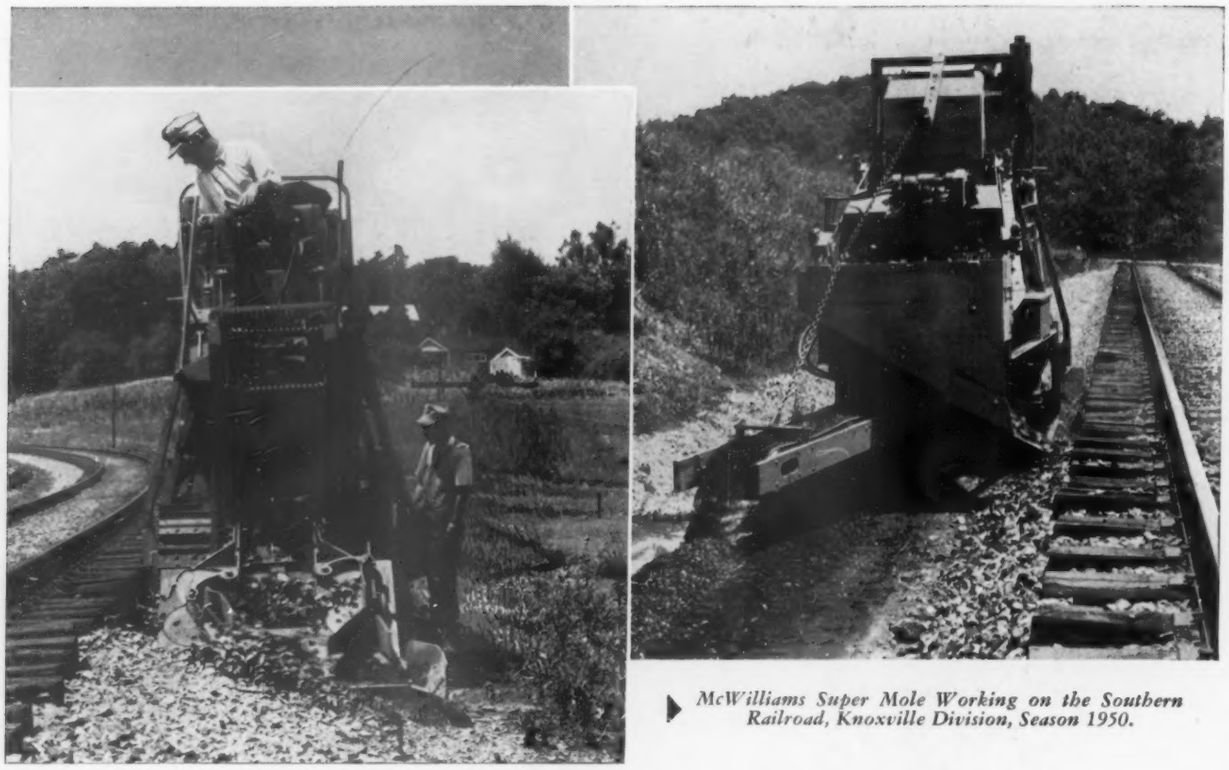
CAR BUILDERS TO AMERICA'S RAILROADS



McWilliams Super Mole Working on the Southern Railroad, Knoxville Division, Season 1950.

Now You Can Clean Track Shoulder at 1,500 Feet Per Hour at Less Than 3½ Cents Per Foot

You get new cleaning economy with the McWilliams Super Mole because now with only one operator and one helper you get fast, off-track cleaning on a mobile unit. The Super Mole excavates and cleans at speeds ranging from 800 ft. to 4,000 ft. per hour—at a cost of less than 3½ cents per foot. It is crawler mounted to give ease of crossing road beds, highways and maneuvering around obstructions. To learn more about the economy of road bed maintenance with the Super Mole write to Railway Maintenance Corporation, P.O. Box 1888, Pittsburgh, Pa.

SPECIFICATIONS

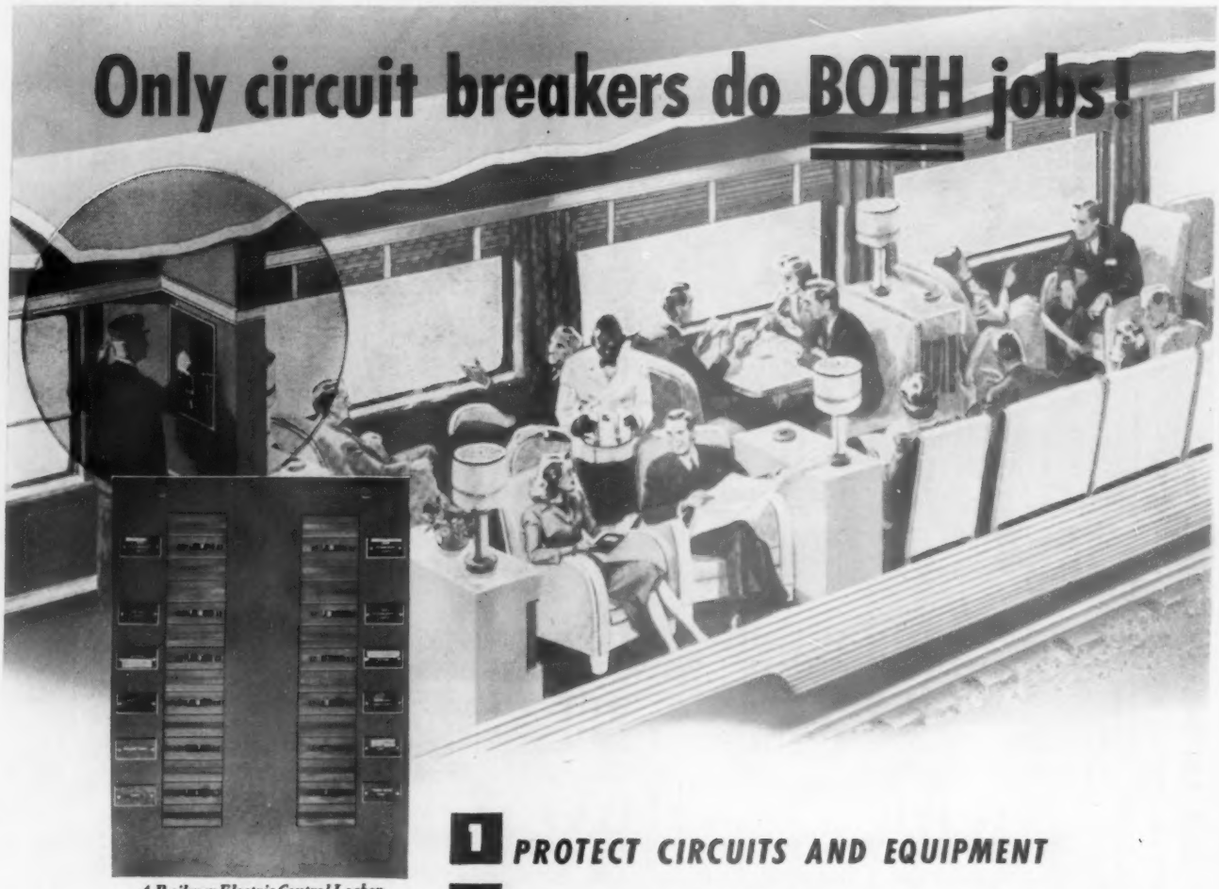
5 traveling speeds—1.5 to 5.4 M.P.H.
5 excavating and cleaning speeds—800 to 4,000 ft. per hr.
Length—20′ 0″
Height—8′ 0″
Digging Width—5′ 0″
Width over treads—4′ 4″
Width of tread—12″
Engine—4-cycle diesel
Governed speed—1450 R.P.M.
Total weight—16,000 lbs.

Railway Maintenance Corporation

Designers and Manufacturers of: Moles; Super Moles; McWilliams Crib Cleaners; HR Track Raiser and Air Tampers; McWilliams Multiple Tool Air Tamper; R.M.C. Rail Joint Packing.

Save with SAFER... SURER AB BREAKERS

Only circuit breakers do BOTH jobs!



A Railway Electric Control Locker equipped with Westinghouse Circuit Breakers.

1 PROTECT CIRCUITS AND EQUIPMENT

2 ASSURE CONTINUOUS PASSENGER SERVICE

Electrical living on modern trains has sharpened the need for the most modern obtainable circuit control and protection. Complete air conditioning systems, kitchen equipment, journal alarm systems, electropneumatically operated doors, individual roomette lighting, heating and utility outlet systems and other equipment are rapidly expanding railway power requirements.

Westinghouse Circuit Breakers assure you of prompt and complete protection on dangerous overloads and short circuits, restore current with a flip of the handle. There is nothing to replace. For one thousand ruptures—or one, Westinghouse equipment is precisely calibrated for the life of the installation. Time delay on harmless, temporary overloads minimizes needless passenger service interruptions.

For assistance on specification of circuit protection equipment, contact your nearest Westinghouse representative, or write for B-4062, Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Penna. J-30051

DESIGN TESTED AND VERIFIED IN THE Westinghouse HIGH POWER LABORATORY

YOU CAN BE SURE.. IF IT'S Westinghouse

AB CIRCUIT BREAKERS

THE COMPLETE LINE

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
			Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total				1950	1949
Akron, Canton & Youngstown	Dec.	171	424,477	33	446,654	58,872	46,837	44,662	142,771	325,970	73.0	120,684	52,905	66,269	60,178
	12 mos.	171	4,857,776	975	5,051,782	736,036	501,580	379,688	1,493,982	3,383,475	67.0	1,668,307	681,807	873,494	508,812
Atchison, Topeka & Santa Fe	Dec.	13,074	37,821,208	4,069,058	46,779,485	5,884,316	7,819,016	1,046,402	14,988,056	31,594,580	67.54	15,184,905	10,485,402	4,379,065	4,805,505
	12 mos.	13,073	422,154,801	44,813,019	522,675,610	72,309,805	88,680,113	11,680,715	157,672,833	350,797,219	67.12	171,878,391	90,375,780	81,213,346	55,649,389
Atlanta & St. Andrews Bay	Dec.	82	270,345	1,554	297,010	15,025	17,990	7,322	52,016	103,919	35.0	193,091	88,465	78,060	62,454
	12 mos.	82	2,904,156	19,589	3,021,347	359,761	223,976	89,026	630,162	1,448,598	47.9	1,572,749	646,697	657,371	413,914
Atlanta & West Point	Dec.	93	281,149	49,364	399,568	47,474	28,770	14,421	168,374	284,716	71.3	114,852	86,765	10,078	—4,924
	12 mos.	93	3,293,085	512,002	4,376,909	485,009	562,966	166,853	1,914,003	3,399,768	77.7	977,141	499,193	229,133	19,264
Western of Alabama	Dec.	133	324,468	47,387	430,499	45,340	26,311	14,364	142,674	251,110	58.3	179,389	138,761	37,842	38,661
	12 mos.	133	3,421,813	491,949	4,362,864	531,651	638,871	169,812	1,676,265	3,267,050	74.9	1,095,814	620,493	432,553	303,013
Atlantic & Danville	Dec.	205	132,398	.....	136,350	28,249	14,521	8,990	50,628	113,564	83.2	22,786	2,857	4,605	4,428
	12 mos.	205	1,436,265	.....	1,465,434	318,173	101,859	98,207	467,840	1,113,408	76.0	352,026	79,720	86,640	—73,636
Atlantic Coast Line	Dec.	5,452	9,857,776	1,742,492	14,955,048	1,942,429	2,427,176	347,522	4,947,788	10,276,989	68.7	4,678,059	2,500,000	2,103,192	1,188,087
	12 mos.	5,505	104,942,294	16,524,248	133,658,119	23,490,578	23,052,214	3,537,447	50,828,791	107,040,794	80.1	26,617,325	15,700,000	9,816,668	6,753,899
Charleston & Western Carolina	Dec.	343	414,325	3,364	441,352	82,001	86,929	15,619	147,761	343,330	77.8	98,022	60,000	43,555	91,727
	12 mos.	343	4,749,579	33,253	4,909,912	964,348	777,848	184,412	1,850,049	3,902,867	79.5	1,007,045	485,000	491,165	227,543
Baltimore & Ohio	Dec.	6,187	30,714,934	2,375,150	36,407,915	4,254,176	7,545,958	914,405	15,731,103	29,864,475	82.0	6,543,440	3,275,794	2,154,950	2,797,043
	12 mos.	6,200	353,483,483	22,285,329	402,541,895	53,530,112	84,355,815	9,392,201	161,661,466	324,575,869	80.6	77,966,026	35,621,837	34,142,197	27,887,361
Staten Island Rapid Transit	Dec.	29	213,309	46,042	264,475	40,667	41,860	1,590	138,366	254,556	96.2	9,919	33,416	—37,897	—95,893
	12 mos.	29	2,294,108	573,500	2,911,141	554,483	460,104	18,606	1,530,956	2,858,018	98.2	53,123	400,612	—515,825	—599,947
Bangor & Aroostook	Dec.	602	698,089	35,125	820,467	226,792	214,745	11,836	211,026	730,949	89.1	89,518	73,201	49,973	124,652
	12 mos.	602	10,676,724	370,131	11,605,607	2,227,948	2,075,412	156,391	2,944,680	8,007,414	69.0	3,598,193	1,789,721	1,843,784	1,858,931
Bessemer & Lake Erie	Dec.	212	1,022,981	2,187	1,064,522	250,234	873,357	24,736	520,681	1,758,562	165.2	—694,040	221,359	—567,298	67,048
	12 mos.	212	23,565,353	13,416	23,842,342	2,262,805	8,923,920	203,406	5,329,905	17,759,073	74.5	6,083,269	4,839,761	4,089,166	4,027,656
Boston & Maine	Dec.	1,702	5,312,048	966,418	8,815,966	1,160,343	1,032,762	131,454	3,508,098	6,117,743	69.4	2,698,223	948,478	1,480,117	475,790
	12 mos.	1,711	65,402,020	11,581,587	86,580,762	13,958,425	12,370,938	1,275,868	35,648,920	66,816,462	77.2	19,764,300	8,576,442	6,953,756	4,983,560
Cambria & Indiana	Dec.	35	147,526	.....	147,560	13,206	61,822	166	24,752	111,713	75.71	35,847	73,704	80,549	112,402
	12 mos.	35	1,492,302	.....	1,493,706	165,766	837,696	6,466	275,211	1,431,897	95.86	61,809	725,063	718,061	541,597
Canadian Pacific Lines in Maine	Dec.	234	476,602	26,930	542,436	242,862	92,899	7,213	244,049	597,366	110.1	—54,930	27,566	—144,999	—15,336
	12 mos.	234	4,338,894	424,295	5,076,464	1,470,205	809,916	80,534	2,080,512	4,573,772	90.1	502,692	299,635	—460,183	—213,725
Canadian Pacific Lines in Vermont	Dec.	90	158,727	11,129	208,925	38,589	25,279	5,815	123,800	199,871	95.7	9,054	11,977	—60,006	—36,481
	12 mos.	90	1,936,167	161,747	2,349,801	761,022	288,485	65,482	1,307,898	2,502,641	106.5	—152,840	144,433	—935,980	—1,243,059
Central of Georgia	Dec.	1,815	2,958,220	238,790	4,133,295	472,301	529,315	110,678	1,596,416	2,879,543	69.7	1,253,752	259,213	930,705	—144,567
	12 mos.	1,815	32,998,808	2,545,577	39,060,945	6,409,076	6,321,604	1,323,329	17,300,757	33,381,899	85.5	5,679,046	2,633,350	2,523,145	214,102
Central of New Jersey	Dec.	410	2,689,454	470,385	3,510,367	463,353	643,726	57,391	1,812,444	3,138,807	89.4	371,560	324,715	—251,557	— 521,439
	12 mos.	410	31,607,407	5,858,578	40,191,692	5,812,272	6,760,282	641,268	19,637,997	34,688,906	86.3	5,502,786	4,420,946	—2,950,313	—4,667,142
Central of Pennsylvania	Dec.	210	1,544,874	8,163	1,683,166	515,201	356,073	23,640	484,120	1,418,940	84.3	264,226	77,024	463,021	589,537
	12 mos.	212	18,786,889	102,443	19,495,774	2,408,614	4,053,671	279,443	5,526,048	12,737,378	65.3	6,758,396	871,432	9,250,773	8,472,202
Central Vermont	Dec.	422	879,033	79,527	1,027,626	174,994	122,531	8,052	404,870	751,309	73.1	276,317	44,240	166,560	270,692
	12 mos.	421	9,290,033	678,527	10,752,626	1,825,355	1,731,895	177,734	4,379,937	8,552,087	79.5	2,200,539	553,218	935,504	324,728
Chesapeake & Ohio	Dec.	5,116	25,502,890	899,745	28,015,756	2,944,066	4,347,774	584,488	9,383,667	18,365,760	65.6	9,649,996	9,486,598	722,391	1,583,401
	12 mos.	5,118	296,064,385	8,164,833	318,676,867	42,614,406	57,434,689	6,107,163	102,413,315	221,010,430	69.4	97,666,437	55,609,021	45,879,069	25,834,966
Chicago & Eastern Illinois	Dec.	886	2,019,654	325,135	3,470,703	386,024	409,898	123,019	988,616	2,055,586	59.2	1,415,117	534,400	785,298	222,463
	12 mos.	891	23,886,905	2,883,495	30,577,220	3,684,900	4,258,654	1,189,601	11,267,290	21,944,993	71.8	8,632,227	2,588,700	4,473,471	1,188,288
Chicago & Illinois Midland	Dec.	130	849,651	232	876,241	55,251	77,649	35,472	262,856	469,244	53.6	406,997	386,933	18,721	115,119
	12 mos.	130	10,274,371	3,221	10,462,727	981,974	1,453,781	301,943	2,536,005	5,701,891	54.5	4,760,836	2,212,342	2,404,302	1,033,394
Chicago & North Western	Dec.	7,923	11,322,069	2,029,451	16,883,873	2,173,151	2,605,479	319,950	7,880,271	13,679,904	81.0	3,203,969	1,749,788	1,206,340	1,082,741
	12 mos.	8,001	145,789,946	20,716,298	188,901,154	29,199,247	33,759,681	3,742,181	83,926,466	159,315,388	84.3	29,585,766	15,600,668	9,132,717	2,782,619
Chicago, Burlington & Quincy	Dec.	8,830	19,816,657	1,688,795	29,603,504	2,046,927	2,746,878	418,202	7,769,722	13,649,292	46.1	15,954,212	7,761,990	7,545,134	1,789,126
	12 mos.	8,843	199,932,605	17,679,514	245,247,560	33,786,916	34,037,570	4,942,602	80,955,659	161,964,673	66.0	83,282,887	39,773,302	37,806,529	19,620,338
Chicago Great Western	Dec.	1,476	2,615,005	24,307	2,844,133	602,690	320,521	102,115	885,623	1,992,910	70.1	851,223	134,958	402,754	329,315
	12 mos.	1,477	30,578,486	244,835	33,150,847	7,560,373	3,599,513	1,163,978	10,148,945	23,340,690	70.4	9,810,157	3,058,466	3,702,345	2,666,416
Chicago, Indianapolis & Louisville	Dec.	541	1,404,298	102,011	1,627,875	202,946	232,109	88,685	513,014	1,128,957	69.4	498,918	191,053	213,928	165,225
	12 mos.	541	17,432,249	981,116	19,752,299	3,304,022	2,791,571	930,961	6,670,624	14,743,653	74.6	5,008,646	1,821,756	2,107,422	1,188,001
Chicago, Milwaukee, St. Paul & Pacific	Dec.	10,671	17,159,571	1,809,827	25,428,519	2,520,874	4,299,854	442,399	9,349,192	17,573,460	69.1	7,855,059	3,983,000	3,594,322	351,731
	12 mos.	10,671	209,924,036	17,538,857	255,421,649	33,428,159	45,904,853	5,034,361	104,527,622	199,650,956	78.2	55,770,693	28,101,000	21,940,044	10,939,286
Chicago, Rock Island & Pacific	Dec.	7,601	11,763,892	1,977,783	16,695,445	1,885,433	2,077,249	430,258	6,258,553	11,311,108	67.7	5,384,337	1,853,980	2,618,649	1,634,364
	12 mos.	7,610	144,445,760	18,110,045	179,652,326	23,469,263	28,235,965	5,281,700	65,574,302	130,706,476	72.8	48,945,850	20,804,549	19,934,230	19,834,692
Chicago, St. Paul, Minn. & Omaha	Dec.	1,617	2,531,165	210,730	3,294,914	376,620	441,924	57,270	1,534,986	2,527,698	76.7	767,216	170,007	430,771	365,663
	12 mos.	1,617	28,623,049	2,109,241	33,757,997	4,962,084	4,438,285	680,040	16,008,145	27,466,210	81.4	6,291,787	2,162,609	2,051,145	1,232,444
Clinchfield	Dec.	317	1,773,867	2,211	1,812,519	264,848	307,747	34,376	393,346	1,033,623	57.0	778,895	207,217	747,399	703,031
	12 mos.	317	20,273,167	23,863	20,445,863	2,734,566	3,565,355	409,684	4,587,999	11,654,856	57.0	8,791,007	2,122,245	8,278,612	4,896,864

(Table continued on next left-hand page)

did you hear the one about the

Two Traveling Men?

Once there were two traveling men, who boarded separate trains for an overnight journey. One got off next morning full of pep and bounce, ready for a big day's work. "Slept like a top," he reported. "Smoothest ride I ever had."

The other emerged heavy-eyed and pessimistic. "What a ride!" he said. "Almost got jolted out of my berth. Hardly slept a wink." And the point of the story is—which one was *your* passenger? . . . and which one will *stay* your passenger?

• • • • •

If you are now planning on any new trains for de luxe service, you are probably giving the question of passenger comfort a lot of thought. Brakes can't, of course, provide the complete answer—but on a number of roads Westinghouse HSC Electro-pneumatic brake equipment has been a big help in smoothing the ride, and improving and maintaining schedules. Application and release impulses are transmitted simultaneously to every car on the train . . . the Speed Governor Control automatically proportions brake pressure to speeds . . . the Decelostat instantaneously softens braking effort if wheel slip impends.

The RAILROAD HOUR
NBC NETWORK Every Monday Night

Brakes are Basic to Railroad Progress

Westinghouse Air Brake Co.

WILMERDING, PA.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1950	1949
Colorado & Southern	Dec.	739	1,305,674	79,497	1,794,649	143,857	146,156	25,640	490,321	853,347	47.6	941,302	669,099	236,955	62,209
	12 mos.	741	12,596,768	903,942	14,889,830	2,001,400	1,930,364	299,233	5,027,436	9,850,346	66.2	5,039,484	2,786,524	1,551,216	902,492
Ft. Worth & Denver City	Dec.	1,130	1,976,108	169,892	2,688,747	318,353	211,404	51,119	686,268	1,359,025	50.5	1,329,722	514,743	627,029	418,881
	12 mos.	1,035	17,111,488	1,564,022	20,510,360	2,729,737	2,360,933	578,249	6,590,383	13,198,185	64.3	7,312,175	2,610,745	3,305,065	2,540,288
Colorado & Wyoming	Dec.	41	177,221	.....	301,606	27,020	11,460	1,154	104,926	155,791	51.6	145,815	167,579	—23,240	7,857
	12 mos.	41	1,511,635	.....	2,567,709	241,272	242,106	11,505	990,130	1,602,991	62.4	964,718	646,644	313,210	321,895
Columbus & Greenville	Dec.	168	195,115	—15	209,060	42,709	27,174	4,922	55,974	154,652	74.0	54,408	34,569	22,780	6,203
	12 mos.	168	1,906,908	751	1,994,204	537,019	361,668	54,700	606,603	1,772,776	88.9	221,428	196,536	53,034	145,958
Delaware & Hudson	Dec.	793	4,289,328	171,904	4,847,796	518,441	912,029	72,815	1,815,432	3,492,169	72.0	1,355,627	—219,299	1,610,060	631,168
	12 mos.	794	51,134,538	1,965,562	54,834,836	6,987,057	11,359,360	857,777	20,864,880	42,135,607	76.8	12,699,229	5,698,360	7,198,127	4,049,367
Delaware, Lackawanna & Western	Dec.	966	5,729,434	944,650	8,437,174	668,688	1,182,344	151,775	3,322,294	5,586,212	66.2	2,850,962	1,204,484	1,613,946	734,379
	12 mos.	967	64,690,394	9,814,057	82,343,568	9,333,483	13,910,005	1,836,355	36,065,528	63,995,304	77.7	18,348,264	9,089,737	9,047,985	7,178,193
Denver & Rio Grande Western	Dec.	2,387	5,863,720	294,313	6,540,633	604,916	1,090,034	191,482	2,013,746	4,140,251	63.3	2,400,382	1,137,633	1,279,032	687,458
	12 mos.	2,408	60,029,662	3,059,388	66,123,375	7,943,460	11,954,494	1,802,173	22,504,210	47,148,643	71.3	18,974,732	9,245,857	9,944,693	8,323,771
Detroit & Mackinac	Dec.	232	149,284	650	167,776	30,337	19,096	3,416	40,461	104,088	62.0	63,688	38,188	25,807	457
	12 mos.	232	2,102,343	7,526	2,232,360	375,337	235,694	26,344	420,953	1,157,334	51.8	1,075,026	470,746	564,684	393,893
Detroit & Toledo Shore Line	Dec.	50	703,759	.....	707,051	57,455	61,676	13,273	283,679	427,313	60.4	279,738	161,170	—4,773	55,819
	12 mos.	50	7,445,724	.....	7,479,368	791,587	641,322	163,672	2,375,386	4,108,575	54.9	3,370,793	1,151,191	1,008,383	831,733
Detroit, Toledo & Ironton	Dec.	464	1,490,413	610	1,600,666	88,587	149,420	31,328	435,725	749,535	46.8	851,131	580,530	191,030	207,165
	12 mos.	464	17,266,267	5,191	17,939,733	1,891,729	2,670,493	301,377	4,799,945	10,121,010	56.4	7,818,723	3,466,962	3,552,425	2,812,861
Duluth, Missabe & Iron Range	Dec.	564	660,968	1,585	761,820	665,263	665,403	8,829	1,253,248	2,672,521	350.8	—1,910,701	145,590	—2,077,821	—1,172,959
	12 mos.	562	39,396,972	20,372	46,176,305	6,657,813	6,610,465	97,211	14,748,286	28,956,504	62.7	17,219,801	10,254,212	6,655,913	5,611,272
Duluth, South Shore & Atlantic	Dec.	539	507,297	8,983	548,953	92,418	102,501	20,874	256,840	490,615	89.4	58,338	29,511	16,230	—98,797
	12 mos.	539	6,541,162	91,477	7,093,373	1,308,203	1,172,172	232,282	2,627,469	5,533,509	78.0	1,559,864	311,379	922,274	—538,966
Duluth, Winnipeg & Pacific	Dec.	175	382,901	1,681	394,660	24,496	63,231	3,469	202,303	300,092	76.0	94,568	30,258	26,715	45,142
	12 mos.	175	4,277,901	16,981	4,389,860	753,452	554,245	49,676	1,885,791	3,317,122	75.6	1,072,738	339,394	198,624	—199,922
Elgin, Joliet & Eastern	Dec.	238	3,055,901	20	3,800,012	220,182	532,214	36,343	1,834,533	2,747,391	72.3	1,052,621	1,464,122	—792,979	369,360
	12 mos.	238	40,357,295	39	48,909,654	3,559,723	6,233,956	332,558	15,872,150	27,414,274	56.1	21,495,380	9,766,612	7,569,068	5,870,389
Erie	Dec.	2,245	12,610,020	734,898	14,705,142	1,338,013	1,940,970	297,767	5,746,413	9,977,111	67.8	4,728,031	2,357,921	1,929,042	1,267,192
	12 mos.	2,231	146,847,184	7,307,853	166,190,465	19,749,783	24,587,675	3,728,213	66,355,072	121,610,080	73.2	44,580,385	19,907,178	19,473,025	10,555,698
Florida East Coast	Dec.	571	1,471,649	548,963	2,600,084	485,433	397,465	70,209	999,101	2,109,886	81.1	490,198	141,750	250,237	215,692
	12 mos.	571	17,722,150	6,118,322	26,890,358	5,274,348	4,781,940	765,447	9,601,705	22,364,810	83.2	4,525,548	1,800,380	1,403,010	—204,496
Georgia Railroad	Dec.	326	631,335	39,832	776,536	80,596	106,964	27,811	320,040	569,066	73 3	207,470	29,450	186,636	76,730
	12 mos.	326	7,670,123	379,280	8,766,717	1,095,627	1,247,419	325,559	3,587,264	6,645,420	75.8	2,121,297	403,593	1,910,671	863,994
Georgia & Florida	Dec.	359	264,141	10	278,683	62,328	29,645	18,963	84,701	212,080	76.1	66,603	3,668	42,551	—19,130
	12 mos.	392	2,943,295	74	2,994,608	784,230	378,516	192,702	1,122,052	2,639,656	88.1	354,952	177,682	—22,005	—361,382
Grand Trunk Western	Dec.	974	4,403,762	266,177	5,096,292	548,403	792,284	70,375	2,230,312	3,788,955	74.4	1,307,337	493,008	569,109	656,057
	12 mos.	972	50,648,762	2,382,177	57,339,292	8,026,715	9,117,320	796,991	23,419,060	43,157,409	75.3	14,181,883	3,122,892	8,351,544	3,268,169
Canadian Nat'l Lines in New Eng.	Dec.	172	180,893	5,967	208,757	32,379	52,516	3,032	121,717	225,488	108.0	—16,731	22,590	—77,829	—60,286
	12 mos.	172	1,963,893	92,767	2,477,757	720,497	551,387	33,606	1,442,732	2,906,920	117.3	—429,163	269,848	—1,139,052	—1,367,204
Great Northern	Dec.	8,316	17,052,151	1,018,547	24,164,796	2,897,148	2,777,605	334,009	7,261,475	14,135,835	58.5	10,028,961	5,714,389	4,024,275	223,814
	12 mos.	8,316	195,579,886	11,068,436	227,516,257	37,376,839	36,681,194	3,900,762	76,260,000	162,124,464	71.3	65,391,793	34,458,432	27,433,305	20,545,025
Green Bay & Western	Dec.	224	320,466	.....	326,659	79,027	44,255	23,900	85,562	247,206	75.68	79,453	38,758	40,195	65,261
	12 mos.	224	3,736,100	Dr 13	3,816,275	702,383	488,824	234,266	944,531	2,534,897	66.42	1,281,378	554,349	558,778	214,933
Gulf, Mobile & Ohio	Dec.	2,898	6,122,310	504,033	7,157,230	769,177	1,357,857	229,120	2,208,266	4,862,435	67.9	2,294,795	966,858	1,018,823	590,190
	12 mos.	2,898	67,073,992	4,854,134	78,428,088	11,182,106	14,138,610	2,729,685	23,573,981	55,152,811	70.3	23,275,277	10,555,250	9,310,917	7,008,946
Illinois Terminal	Dec.	462	680,263	92,875	866,302	132,911	132,682	36,858	396,042	750,396	86.62	115,906	37,221	67,575	54,065
	12 mos.	462	9,449,475	1,078,453	11,913,066	1,695,955	1,581,384	433,440	4,679,922	8,964,184	75.25	2,948,882	1,448,328	1,250,214	1,262,527
Illinois Central	Dec.	6,539	20,168,105	2,084,968	28,498,748	1,451,632	3,748,195	432,512	9,674,500	16,167,330	56.7	12,331,418	2,355,313	9,583,946	2,663,001
	12 mos.	6,542	224,418,504	21,530,058	275,968,155	40,913,517	46,076,110	5,247,127	97,455,194	200,311,231	72.6	75,656,924	35,742,763	37,668,913	25,184,679
Kansas City Southern	Dec.	891	2,918,160	172,639	3,400,880	474,011	470,871	107,165	1,046,829	2,232,748	65.7	1,168,132	510,280	420,494	679,638
	12 mos.	891	34,191,595	1,419,297	39,354,451	3,979,023	5,008,087	1,086,335	11,358,640	22,767,858	57.9	16,586,593	6,315,280	7,947,393	8,980,645
Kansas, Oklahoma & Gulf	Dec.	327	526,226	685	546,474	42,480	38,273	27,232	139,814	275,103	50.3	271,371	132,097	108,309	116,421
	12 mos.	327	5,477,905	7,473	5,544,029	598,667	442,205	213,507	1,373,653	2,864,006	51.7	2,680,023	1,213,835	1,144,930	913,016
Lake Superior & Ishpeming	Dec.	156	100,876	40	118,090	39,482	48,205	1,782	77,016	186,601	158.0	—68,511	—45,903	— 13,080	—100,271
	12 mos.	156	3,064,559	435	3,738,412	544,078	519,998	21,526	994,565	2,221,899	59.4	1,516,513	909,161	686,129	586,288
Lehigh & Hudson River	Dec.	96	247,324	.....	248,087	28,567	22,525	8,493	75,579	142,525	57.4	105,562	61,287	25,085	—16,003
	12 mos.	96	3,004,927	.....	3,012,030	410,983	307,294	106,632	1,069,728	2,001,594	66.5	1,010,436	448,318	311,767	98,817
Lehigh & New England	Dec.	191	644,964	.....	650,179	80,795	113,140	17,287	180,530	439,992	67.7	210,187	24,969	220,086	367,669
	12 mos.	191	8,402,341	.....	8,473,101	904,115	1,313,568	143,493	2,029,057	4,768,632	56.3	3,704,469	1,809,234	2,306,515	1,973,258
Lehigh Valley	Dec.	1,229	5,255,226	391,994	6,274,328	1,520,275	1,242,059	127,730	2,509,148	5,642,463	89.9	631,865	—95,434	655,476	148,451
	12 mos.	1,247	64,150,020	3 617,816	71,236,124	9,636,427	12,280,174	1,590,489	28,506,956	54,738,120	76.8	16,498,004	6,450,899	8,400,845	5,584,141
Long Island	Dec.	Not yet filed.				.....	.....	.....	.....	.....	....	.....	.....	.....	.....
	12 mos.	Not yet filed.				.....	.....	.....	.....	.....	....	.....	.....	.....	.....

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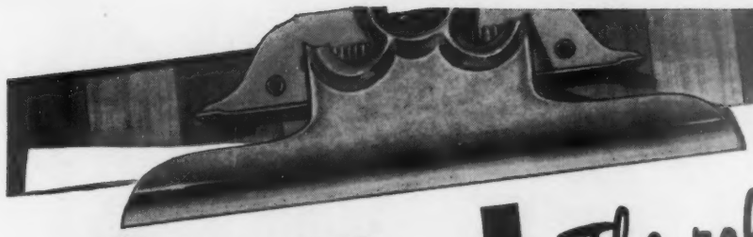


INLAND DATA for STEEL USERS

INLAND STEEL CO.

38 S. Dearborn Street, Chicago 3, Illinois

The role of Scrap in Steel Making

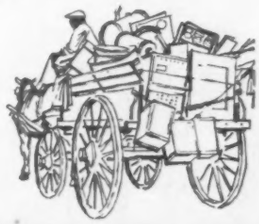
One of the most important raw materials in steelmaking . . . one frequently underrated by the casual observer . . . is iron and steel scrap. With over 90% of all the steel in the U. S. being made by the open hearth process, the scrap used by steel producers totals approximately 50,000,000 tons each year.

The open hearth method of steel production is geared to a pig iron scrap consumption ratio of roughly 50-50. This is to the final advantage of the steel user, since a large scrap diet in steelmaking results in a number of benefits: (a) steel is made faster (since scrap has already been "refined" once before, the "melt" time in the open hearth is decreased); (b) vital raw materials are conserved (it takes almost 4 tons of iron ore, coal and limestone to make a ton of pig iron); (c) unless scrap prices are abnormally high, the price of steel is cheaper; (d) steel is of higher quality (since scrap has already undergone one refining process); (e) transportation facilities, instead of being used for the additional raw materials otherwise required, can be released for other uses; (f) steel mill capacities can be expanded more readily with less emphasis on the blast furnace and more on open hearths and rolling mills.

About two-thirds of the scrap consumed in making steel comes from the steel mills themselves. Crop ends and sheared edges move quickly back to the open hearth shop. The remaining third, flowing to the mills largely through the 6,500 scrap dealers in the U.S., comes from the wastage in metal working plants ("production" scrap), auto graveyards, old building, bridge and ship wrecking projects, railroads (worn rails, freight cars, etc.), neighborhood junk peddlers.

The scrap dealers must sort the scrap so that the undesirables are eliminated, the alloys segregated and the right kinds of scrap can be delivered in large tonnages to the mills for most efficient steelmaking practice.

Today, with steel production at record peaks and with capacity continually expanding, it is more important than ever to keep scrap flowing back to the steel mills from *every* source. Everyone waiting for steel can help himself by assisting the movement of his scrap through his regular channels.



THE SCRAP CYCLE

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating Expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income: 1950	1949
Louisiana & Arkansas	Dec.	756	1,751,104	63,301	1,901,092	408,087	280,260	57,929	628,762	1,445,383	76.0	455,709	276,769	28,457	387,369
	12 mos.	756	19,733,854	780,628	21,450,683	3,030,544	2,317,468	576,834	6,127,890	12,741,550	59.4	8,709,133	3,835,456	3,611,136	3,447,430
Louisville & Nashville	Dec.	4,778	14,747,956	1,418,657	18,335,606	2,311,745	3,221,201	321,396	6,214,745	12,656,201	69.0	5,679,405	4,474,211	1,925,267	1,525,704
	12 mos.	4,779	176,205,471	12,538,193	203,016,525	25,953,772	39,107,611	3,616,848	75,211,600	150,684,793	74.2	52,331,732	34,837,296	26,031,375	12,836,069
Maine Central	Dec.	981	1,435,360	136,775	2,293,458	312,796	375,035	21,451	725,940	1,497,979	65.3	795,479	354,454	429,573	188,360
	12 mos.	981	20,229,936	1,605,684	23,983,123	4,649,660	4,352,578	225,990	8,549,735	18,583,650	77.5	5,399,473	2,751,900	2,339,636	2,174,642
Midland Valley	Dec.	334	160,812	12	164,382	39,495	21,261	5,590	66,662	142,946	87.0	21,436	—3,745	14,672	—34,459
	12 mos.	334	2,011,979	58	2,051,175	501,722	193,256	46,959	671,489	1,504,188	73.3	546,987	188,490	214,518	121,099
Minneapolis & St. Louis	Dec.	1,416	1,654,961	13,338	1,777,070	168,566	321,652	124,252	568,139	1,281,895	72.1	495,175	270,323	184,323	84,589
	12 mos.	1,416	20,018,004	90,792	20,881,599	3,278,118	3,028,816	1,304,963	6,248,365	15,008,925	71.9	5,872,674	2,848,551	2,502,626	1,356,144
Minneapolis, St. Paul & S. S. Marie	Dec.	3,224	2,494,252	80,508	2,773,779	538,730	522,189	71,345	1,392,166	2,638,158	95.1	135,621	242,615	—163,252	—143,446
	12 mos.	3,224	34,742,710	1,063,331	38,369,978	7,658,247	6,255,620	809,678	15,240,028	31,286,206	81.5	7,083,772	4,065,316	2,399,742	1,931,476
Mississippi Central	Dec.	148	216,933	—309	221,450	44,558	27,446	12,640	60,637	154,356	69.7	67,094	25,376	23,951	29,439
	12 mos.	148	2,380,629	—328	2,430,663	509,742	310,513	150,237	642,876	1,719,592	70.7	711,071	300,171	265,197	156,142
Missouri-Illinois	Dec.	172	396,319	193	408,724	58,495	42,781	7,019	133,453	250,552	61.3	158,172	139,429	22,288	124,291
	12 mos.	172	4,680,127	2,680	4,724,154	761,890	634,837	91,492	1,236,803	2,821,442	59.7	1,902,712	1,060,746	828,741	986,623
Missouri-Kansas-Texas Lines	Dec.	3,243	5,456,360	606,311	7,054,923	946,863	828,590	215,969	2,366,769	4,647,946	65.9	2,406,977	1,048,322	1,104,196	732,246
	12 mos.	3,246	65,160,419	4,727,652	77,582,227	11,328,861	10,648,688	2,679,730	27,141,353	55,222,889	71.2	22,359,338	9,803,549	9,096,750	7,684,089
Missouri Pacific	Dec.	6,960	16,235,006	1,111,947	23,767,802	3,034,198	3,640,879	397,031	7,220,642	14,897,098	62.7	8,870,704	1,928,279	6,417,256	3,053,646
	12 mos.	6,965	186,103,173	10,794,906	220,366,395	33,654,197	37,262,407	4,893,204	78,724,299	161,330,202	73.2	59,036,193	20,695,089	31,659,212	16,201,573
Gulf Coast Lines	Dec.	1,711	3,606,065	79,318	4,217,435	841,256	539,683	77,634	1,195,557	2,786,560	66.1	1,430,875	951,093	239,280	682,317
	12 mos.	1,711	38,296,801	966,454	41,677,804	7,525,785	5,988,262	895,695	13,429,191	29,357,914	70.4	12,319,890	4,261,616	5,066,381	5,736,037
International-Great Northern	Dec.	1,089	2,750,102	237,216	3,910,383	630,002	483,779	52,456	1,207,780	2,487,748	63.6	1,422,635	289,749	1,022,441	562,924
	12 mos.	1,098	28,635,846	2,166,276	34,408,437	6,420,494	5,852,415	612,456	12,988,773	27,223,525	79.1	7,184,912	1,836,769	3,728,237	2,711,324
Monongahela	Dec.	178	655,646	5	665,717	51,027	73,797	1,090	256,003	386,745	58.1	278,972	13,577	79,614	125,513
	12 mos.	170	6,126,138	5,332	6,184,845	812,125	803,777	11,984	2,390,766	4,086,571	66.1	2,098,274	354,681	344,599	528,613
Montour	Dec.	51	254,516	.....	255,018	19,476	87,764	1,053	109,959	228,154	89.5	26,864	31,333	41,257	22,064
	12 mos.	51	2,804,074	.....	2,809,579	318,875	861,892	10,667	934,660	2,237,738	79.7	571,841	566,340	597,127	549,155
Nashville, Chatt. & St. Louis	Dec.	1,049	2,498,959	186,342	3,319,858	379,510	418,306	102,643	1,150,807	2,126,036	64.0	1,193,822	484,367	747,804	449,084
	12 mos.	1,049	29,906,924	1,748,345	35,798,615	5,863,732	4,799,122	1,229,776	12,679,454	25,819,250	72.1	9,979,365	4,878,749	5,157,705	3,422,130
New York Central	Dec.	10,733	45,791,274	11,964,879	83,040,987	10,629,309	16,239,367	1,026,020	32,281,187	63,343,766	76.3	19,697,221	12,906,871	4,811,057	5,912,464
	12 mos.	10,733	544,621,430	116,597,098	759,684,769	93,109,909	157,292,816	11,832,379	336,101,691	632,848,260	83.3	126,836,509	68,613,313	37,475,423	32,295,475
Pittsburgh & Lake Erie	Dec.	221	3,502,838	112,778	3,848,409	347,129	986,657	62,264	1,718,536	3,300,248	85.8	548,161	851,281	436,119	686,213
	12 mos.	221	39,149,993	928,799	41,835,001	4,774,114	10,917,392	811,834	15,112,279	33,843,069	80.9	7,991,932	7,676,203	7,257,719	5,790,845
New York, Chicago & St. Louis	Dec.	2,192	12,914,591	194,510	13,653,091	770,077	1,919,694	287,201	3,911,594	7,356,239	53.9	6,296,852	3,890,313	2,180,895	2,108,934
	12 mos.	2,192	140,144,949	1,778,742	146,923,939	15,837,960	22,388,326	3,418,309	47,837,070	94,255,256	64.2	52,668,683	24,208,254	25,189,537	19,368,049
New York, New Haven & Hartford	Dec.	1,794	7,348,722	4,303,843	15,010,480	1,861,489	1,861,007	164,843	5,517,340	10,000,558	66.6	5,009,922	3,056,256	1,229,841	—40,570
	12 mos.	1,795	88,739,189	46,680,517	150,764,985	20,959,001	22,387,045	2,265,332	61,816,158	115,075,645	76.3	35,689,340	14,983,256	10,902,811	7,528,998
New York Connecting	Dec.	21	288,159	.....	304,705	60,883	18,450	.....	61,627	143,383	47.1	161,322	80,376	125,243	636,832
	12 mos.	21	2,957,961	.....	3,112,554	875,351	231,358	.....	710,562	1,847,040	59.3	1,265,514	772,097	727,704	732,196
New York, Ontario & Western	Dec.	542	505,711	540	532,372	84,866	81,204	24,875	265,136	483,845	90.9	48,527	11,959	—28,056	—8,228
	12 mos.	544	6,581,149	108,384	7,101,329	1,273,386	1,025,468	305,178	3,355,608	6,306,996	88.8	794,333	435,339	—518,245	—672,473
New York, Susquehanna & Western	Dec.	120	369,249	34,511	424,942	50,654	62,114	7,377	194,408	344,062	80.9	80,880	33,461	2,857	4,705
	12 mos.	120	4,470,178	453,637	5,110,476	551,935	664,715	78,836	2,156,053	3,771,288	73.8	1,339,188	401,818	492,472	191,724
Norfolk & Western	Dec.	2,126	13,561,410	569,086	16,945,194	1,911,513	2,519,158	276,474	4,702,565	9,951,036	58.7	6,994,158	4,700,403	3,394,098	2,081,679
	12 mos.	2,128	154,985,356	4,769,810	167,996,440	24,367,019	32,434,826	3,134,248	50,221,789	116,410,282	69.3	51,586,158	35,100,982	29,058,687	20,794,351
Norfolk Southern	Dec.	643	920,805	.....	946,025	568,399	209,247	53,851	298,307	1,227,475	129.8	—281,450	—284,260	—40,050	58,923
	12 mos.	673	9,284,652	1,898	9,573,562	2,268,134	1,310,084	527,981	3,083,840	7,953,845	83.1	1,619,717	561,215	686,848	577,919
Northern Pacific	Dec.	6,904	12,507,706	696,924	16,709,942	1,406,335	2,224,169	282,422	5,329,048	9,827,804	58.8	6,882,138	4,617,626	2,864,335	3,130,063
	12 mos.	6,899	147,282,409	6,229,980	167,228,070	24,319,313	29,549,811	3,057,088	57,871,371	121,845,191	72.9	45,382,879	27,681,385	22,689,706	14,017,915
Northwestern Pacific	Dec.	331	775,494	5,152	815,706	220,545	114,929	6,918	500,199	857,541	105.1	—41,835	—22,668	—96,227	—72,042
	12 mos.	331	9,894,197	60,449	10,358,390	2,222,909	1,157,751	56,757	4,558,215	8,159,130	78.8	2,199,260	917,792	503,305	25,979
Oklahoma City-Ada-Atoka	Dec.	132	94,571	.....	95,335	18,371	—26,057	2,144	24,288	23,087	24.2	72,248	31,884	30,857	17,012
	12 mos.	132	960,982	10	974,080	262,150	15,763	17,576	259,402	602,025	61.8	372,055	165,104	59,454	103,990
Pennsylvania	Dec.	10,112	56,028,878	14,312,342	97,852,622	11,197,390	32,337,883	1,026,940	36,565,825	84,137,635	86.0	13,714,987	8,030,130	4,112,426	157,700
	12 mos.	10,117	685,832,860	142,373,976	930,140,874	115,994,871	231,753,260	13,354,045	388,723,288	784,527,564	84.3	145,613,310	69,492,054	57,873,351	37,177,720
Pennsylvania-Reading Seashore Lines	Dec.	373	566,975	125,536	788,711	458,293	6,817	9,643	526,229	1,086,416	137.7	—297,705	86,397	—520,071	—384,624
	12 mos.	385	6,428,535	2,546,327	9,366,762	2,375,372	1,586,952	133,247	6,684,519	11,222,202	119.8	—1,855,440	1,104,298	—4,516,583	—4,420,136

(Table continued on next left-hand page)

Unicel

PSC

PRESSED STEEL CAR CO., INC.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
			Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total				1950	1949
Pittaburg & Shawmut	Dec.	97	203,872	.....	204,867	7,953	56,952	5,096	72,967	155,942	76.1	48,925	48,168	—6,256	10,627
	12 mos.	97	2,538,002	.....	2,546,156	477,896	588,553	39,521	659,746	1,885,600	74.1	660,556	225,861	380,127	329,359
Pittaburgh & West Virginia	Dec.	132	695,919	.....	715,501	140,830	149,544	72,749	235,167	653,580	91.3	61,921	—443,100	549,818	106,742
	12 mos.	132	8,267,100	.....	8,484,258	1,741,862	1,750,600	529,159	2,191,900	6,635,661	78.2	1,848,597	451,473	1,824,228	1,146,893
Reading	Dec.	1,317	9,338,231	624,042	10,810,432	1,861,434	2,132,923	154,289	4,399,837	8,877,254	82.1	1,933,178	1,019,580	989,509	937,679
	12 mos.	1,317	105,542,628	6,628,732	118,952,178	17,799,812	24,154,952	1,590,800	46,410,404	93,530,278	78.6	25,421,900	12,229,871	12,991,669	9,378,553
Richmond, Fredericksburg & Potomac	Dec.	118	1,367,278	537,226	2,601,891	248,073	243,190	21,734	344,423	963,786	37.0	1,638,105	928,333	606,629	119,589
	12 mos.	118	14,701,901	5,707,366	23,991,601	3,042,581	3,218,267	223,582	7,206,471	15,048,208	62.7	8,943,393	4,289,461	3,584,427	825,032
Rutland	Dec.	407	323,380	24,310	427,278	60,910	105,845	15,654	270,605	457,167	111.2	—47,889	31,580	—101,172	—59,969
	12 mos.	407	4,466,752	359,721	5,641,359	864,503	1,000,668	170,788	3,057,160	5,312,475	94.2	328,884	354,585	—272,927	—457,810
Sacramento Northern	Dec.	271	199,521	.....	205,826	57,540	17,124	2,047	80,858	166,436	80.9	39,390	—313,874	326,169	—50,024
	12 mos.	271	3,035,835	1,262	3,117,801	643,374	200,374	26,475	974,058	1,937,287	62.1	1,180,514	149,515	785,139	—225,028
St. Louis-San Francisco	Dec.	4,635	8,510,849	639,676	11,797,385	1,072,492	1,706,642	260,060	3,464,398	6,944,214	58.9	4,853,171	2,238,283	2,804,961	1,076,005
	12 mos.	4,636	98,706,794	6,042,466	114,470,668	17,332,944	18,507,285	2,872,384	40,840,945	84,366,404	73.7	30,104,264	15,460,020	15,565,131	10,215,315
St. Louis, San Francisco & Texas	Dec.	159	349,558	15,254	405,503	59,627	30,592	16,168	108,211	226,318	55.8	179,185	61,711	70,461	—27,170
	12 mos.	159	3,910,003	123,186	4,299,563	600,414	397,169	186,360	1,593,949	2,900,884	67.5	1,398,679	399,676	402,985	375,688
St. Louis Southwestern Lines	Dec.	1,569	4,773,779	99,554	5,098,910	453,303	593,927	146,603	1,687,547	3,039,758	59.6	2,059,152	1,301,325	529,681	731,355
	12 mos.	1,569	59,121,319	628,241	68,525,910	7,050,361	6,945,793	1,697,011	18,646,657	36,344,920	58.1	26,180,990	12,434,323	11,149,263	9,888,349
Seaboard Air Line	Dec.	4,146	9,898,873	1,404,914	14,489,510	1,856,108	1,812,987	336,691	4,301,750	8,823,912	60.9	5,665,598	2,448,182	2,909,743	1,283,995
	12 mos.	4,146	109,874,986	14,026,546	135,536,777	20,868,185	22,391,333	3,808,793	46,086,947	98,822,143	72.9	36,714,634	16,782,998	17,361,299	11,048,786
Southern	Dec.	6,344	18,335,042	1,298,295	26,625,022	2,272,977	3,678,965	380,883	7,720,786	14,876,544	55.9	11,748,478	5,930,638	5,293,670	2,943,304
	12 mos.	6,346	201,940,658	16,407,976	239,906,392	30,488,793	42,173,745	4,186,041	82,383,092	168,557,964	70.3	71,348,428	35,138,494	31,933,359	21,863,820
Alabama Great Southern	Dec.	316	1,664,795	60,796	2,409,681	398,456	362,145	31,663	515,907	1,364,191	56.6	1,045,490	561,519	536,403	116,917
	12 mos.	316	15,589,180	999,571	18,522,644	2,561,889	3,647,881	339,514	5,945,919	13,168,441	71.1	5,354,203	3,163,377	2,447,870	1,473,887
Cinn., New Orleans & Texas Pacific	Dec.	356	3,453,188	180,844	4,592,706	290,098	751,353	68,014	887,893	2,113,008	46.0	2,479,698	1,693,902	890,016	567,094
	12 mos.	337	36,920,244	2,064,115	41,690,397	4,626,063	7,241,987	714,445	11,146,899	25,051,655	60.1	16,638,742	8,942,790	8,289,043	6,224,560
Georgia Southern & Florida	Dec.	397	555,373	77,300	934,248	62,712	47,472	7,540	218,430	358,995	38.4	575,253	240,432	233,075	93,117
	12 mos.	397	6,147,232	854,559	7,890,878	1,561,092	675,661	85,363	2,409,223	4,953,820	62.8	2,937,058	821,751	796,907	526,512
New Orleans & Northeastern	Dec.	203	1,279,573	47,897	1,565,179	94,793	103,326	17,824	204,352	460,772	29.4	1,104,407	763,208	298,570	280,443
	12 mos.	204	11,260,691	603,276	12,623,863	1,641,867	1,182,678	200,868	2,736,395	6,231,498	49.4	6,392,365	3,303,023	2,508,032	1,947,771
Southern Pacific	Dec.	8,129	32,787,456	3,695,042	39,815,165	4,235,747	7,866,808	692,407	15,859,208	30,404,728	76.4	9,410,437	4,205,953	3,545,238	1,073,061
	12 mos.	8,142	395,778,718	38,949,279	470,229,623	51,827,974	90,959,001	8,470,905	171,044,688	343,834,180	73.1	126,395,443	62,092,958	47,536,509	28,000,165
Texas & New Orleans	Dec.	4,316	9,800,633	776,636	11,464,270	1,628,782	2,133,685	238,543	4,374,320	8,875,709	77.4	2,588,561	1,253,603	1,374,107	1,016,232
	12 mos.	4,316	110,251,377	8,110,828	128,033,105	20,023,470	18,830,605	2,654,640	46,319,939	93,481,183	73.0	34,551,922	14,683,305	12,976,913	12,511,020
Spokane International	Dec.	152	161,200	1,289	182,791	31,873	13,180	5,145	43,258	103,690	56.7	79,101	40,317	28,608	216,144
	12 mos.	152	2,127,397	12,638	2,321,063	492,242	216,769	54,587	610,985	1,486,831	64.1	834,232	228,282	428,083	220,688
Spokane, Portland & Seattle	Dec.	931	1,789,507	93,808	2,278,361	859,702	308,946	23,674	881,490	2,147,761	94.3	130,600	235,851	—185,061	4,403
	12 mos.	941	24,139,130	963,756	26,738,515	5,731,100	3,223,927	256,665	8,518,259	18,662,476	69.8	8,076,039	2,090,801	5,143,210	3,036,473
Tennessee Central	Dec.	286	384,237	11,784	445,279	99,927	82,406	10,714	163,085	375,652	84.4	69,627	20,029	3,616	62,095
	12 mos.	286	4,400,421	78,361	4,778,538	927,292	744,212	122,769	1,604,061	3,612,790	75.6	1,165,748	291,301	482,242	404,253
Texas & Northern	Dec.	8	110,495	.....	126,526	7,011	10,771	1,006	26,132	49,092	38.8	77,434	82,825	—21,589	23,468
	12 mos.	8	1,095,201	.....	1,243,253	41,150	74,534	9,815	237,173	409,423	32.9	833,830	349,256	334,715	233,275
Texas & Pacific	Dec.	1,846	5,168,433	447,313	6,324,831	698,976	904,206	158,454	2,272,156	4,328,406	68.4	1,996,425	820,951	836,318	510,927
	12 mos.	1,846	59,112,642	4,718,093	70,731,267	9,368,941	10,565,478	1,884,348	23,508,616	48,696,022	68.8	22,035,245	8,760,589	9,644,813	6,405,794
Texas Mexican	Dec.	162	218,439	.....	247168	78,732	36,137	9,657	52,640	238,093	96.3	9,075	294,610	—308,229	31,289
	12 mos.	162	3,000,528	.....	3,344,519	698,584	278,267	79,289	669,103	1,963,412	58.7	1,381,107	843,330	255,215	473,368
Toledo, Peoria & Western	Dec.	239	871,334	—11	878,571	29,405	61,206	52,208	120,494	302,197	34.4	576,374	248,305	282,766	30,028
	12 mos.	239	5,925,910	125	6,021,430	756,270	408,783	458,101	1,283,989	3,206,423	53.3	2,815,007	1,127,814	1,221,983	649,659
Union Pacific	Dec.	9,720	35,819,877	2,960,944	51,428,228	3,157,835	8,453,241	847,416	15,145,792	29,244,507	56.9	22,183,721	14,058,002	7,109,380	5,572,752
	12 mos.	9,720	389,289,637	33,159,662	465,283,516	59,107,661	80,889,966	9,562,158	155,294,638	327,013,967	70.3	138,269,549	76,541,751	44,128,921	21,707,437
Utah	Dec.	110	142,461	.....	142,916	4,696	50,631	866	64,421	128,203	89.7	14,713	10,128	19,138	—3,240
	12 mos.	110	1,468,433	.....	1,473,351	194,814	589,211	8,597	657,248	1,537,575	104.4	—64,224	137,920	—64,694	—165,443
Virginian	Dec.	643	3,162,407	3,445	3,243,845	255,054	613,622	40,633	763,935	1,731,451	53.4	1,512,394	944,000	841,821	650,282
	12 mos.	650	32,441,299	32,394	33,213,159	4,222,934	6,909,552	449,386	7,562,813	20,039,914	60.3	13,173,245	7,447,100	8,708,449	6,111,283
Wabash	Dec.	2,393	7,564,341	495,949	9,046,469	744,239	920,978	261,823	3,747,768	6,062,358	67.0	2,984,111	1,336,953	1,250,439	991,271
	12 mos.	2,393	91,607,673	4,787,369	104,357,675	13,408,031	13,150,131	3,068,381	41,862,716	75,339,457	72.2	29,018,218	12,324,344	11,395,571	7,546,755
Ann Arbor	Dec.	294	783,336	.....	799,852	6,388	93,903	23,924	318,931	459,314	57.4	340,538	172,727	133,131	60,215
	12 mos.	294	9,133,307	18,952	9,400,460	935,076	1,157,266	279,565	3,986,753	6,570,305	69.9	2,830,155	1,059,788	1,405,346	463,418
Western Maryland	Dec.	837	3,830,747	10,689	4,045,107	399,622	716,120	75,169	1,293,008	2,587,648	64.0	1,457,459	899,871	773,864	611,267
	12 mos.	837	40,064,594	109,568	41,874,602	5,363,311	8,159,616	874,992	12,657,062	28,621,232	68.3	13,253,370	7,567,871	8,094,742	6,710,507
Western Pacific	Dec.	1,195	4,670,924	215,687	5,044,402	533,325	602,723	154,416	1,284,907	2,834,505	56.2	2,209,897	918,387	1,178,883	671,466
	12 mos.	1,195	45,608,951	2,589,363	49,348,111	6,448,536	7,068,605	1,738,290	13,865,296	31,348,036	63.5	18,000,075	7,639,360	9,384,063	4,545,064
Wisconsin Central	Dec.	1,051	1,980,534	45,395	2,176,418	363,714	339,108	62,035	1,040,974	1,913,635	87.9	262,783	88,553	—15,424	15,544
	12 mos.	1,051	27,100,805	443,485	29,430,789	4,176,351	4,143,211	713,720	11,198,860	21,306,055	72.4	8,124,734	2,764,684	3,488,539	2,090,719

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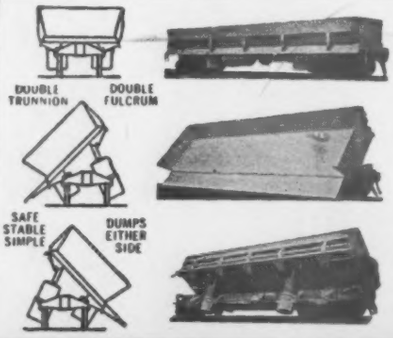

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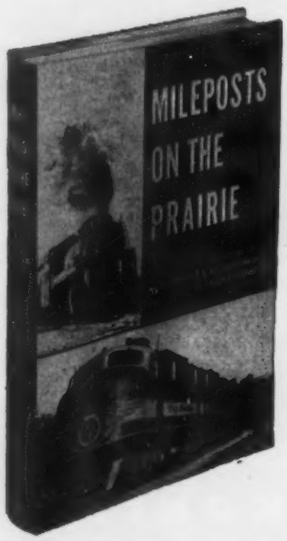

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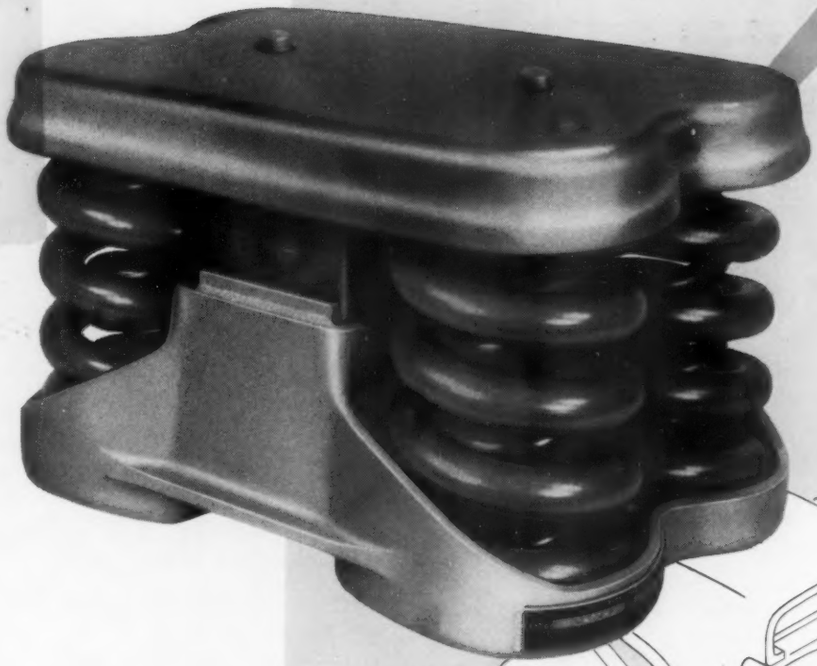

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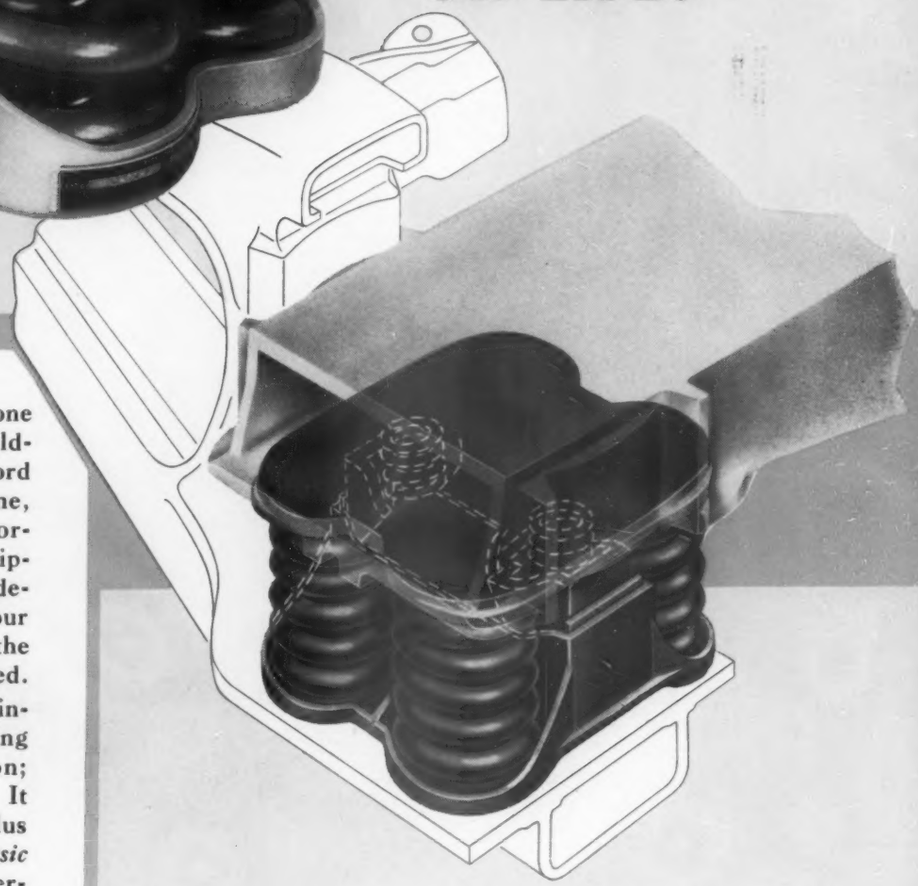

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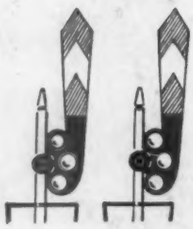

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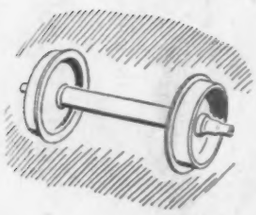

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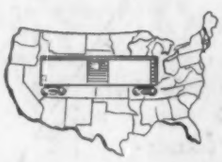

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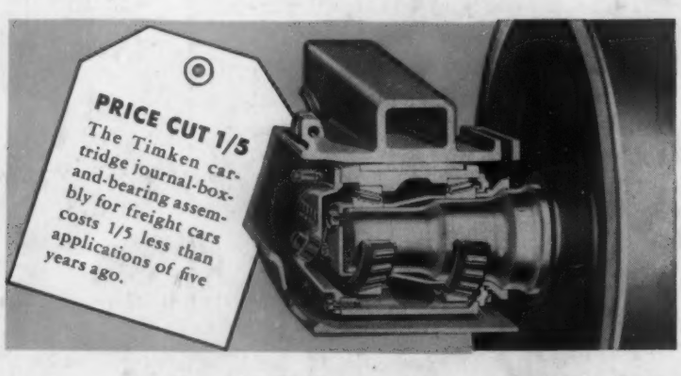
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